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A STUDY OF THE SOCIO-EMOTIONAL ASPECTS OF EDUCATIONALLY RESILIENT DYSLEXIC PUPILS

GILDA PALTI

A thesis submitted to the University of Bristol in accordance with the requirements for the degree of Doctor of Education in the School of Education.

February 1998

Abstract

The main focus of this thesis is the relationship between dyslexic pupils and educational resilience.

Evidence from research supports the view that adverse life circumstances, such as poverty, divorce or institutionalisation, lead to the development of some children 'at risk' of academic failure or of ill health. There is also evidence, however, that in spite of these misfortunes, not all children show the negative developmental consequences typically associated with severe and prolonged social adversity. Indeed, some of these children develop as well-adjusted and coping adults, and are even successful in some areas. These children are referred to in the literature as 'resilient children'. The concept of resilience has been developed by theorists mainly in the field of psychopathology, social work or community health. To date, reviews of studies on dyslexia and educational achievement suggest that the concept of resilience has not been applied to dyslexic children, though there is a good reason for doing so. There is evidence that some dyslexic individuals have managed to cope with their learning difficulties and achieve educational resilience. It is assumed that various socio-emotive factors may have contributed to their success, but little is known about these factors.

The present study aims to investigate the socio-emotive factors relating to educational resilience in a sample of eighty dyslexic boys aged 7-11 years. It is hypothesised that educationally resilient dyslexic pupils show a different cluster of socio-emotive factors than their less achieving dyslexic peers, thus the differences in higher educational achievement can be, in part, explained by socio-emotive factors such as self-esteem, locus of control, impulsivity, sociability, attachment and other variables that are associated with resilience in the literature.

Findings from the study suggest that educationally resilient dyslexic pupils show relatively more difficulties relating to social adjustment and more observed symptoms of emotional maladjustment. Thus, the educationally resilient pupils pay an emotional cost for their academic success. Results show that different socio-emotive characteristics are associated with educationally resilient dyslexic pupils rather than with their less educationally resilient dyslexic peers.

Based on the findings of the research, suggestions are made for prevention and intervention strategies which may benefit children experiencing prolonged hardship, and reduce the risk of failure. Some suggestions for further research are also outlined.

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In my experience, a Doctorate degree does not just come about. It has been a slow maturing process involving the tutors and EdD students at the School of Education at the University of Bristol; and especially my family and friends. I am grateful for the input of numerous individuals who made this study possible.

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Without the encouragement and support of all the above, this dissertation might never have been completed.

Author's Declarations

I declare that the work in this thesis was carried out in accordance with the Regulations of the University of Bristol. The work is original except where indicated by special reference in the text and no part of the thesis has been submitted for any other degree.

Any views expressed in the thesis are those of the author and in no way represent those of the University of Bristol.

The thesis has not been presented to any other University for examination in the United Kingdom or overseas.

A handwritten signature in black ink, written diagonally across the page. The signature is cursive and appears to read 'Michael P. ...'.

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Chapter I

Introduction to the substantive field of the inquiry:

Resilience and dyslexia

The main theme

The current interest in understanding the roots of resilience aims to find strategies of intervention which may benefit children experiencing prolonged hardship, and to reduce the risk of failure.

Evidence from previous research supports the view that adverse life circumstances, such as poverty, divorce or institutionalisation, lead to the development of children 'at risk' of failure or ill health (Garmezy, 1983). There is also evidence that in spite of these misfortunes, not all children show the negative developmental consequences typically associated with severe and prolonged social adversity. Indeed, some of these children develop as well-adjusted and coping adults, and are even successful in some areas. These children are referred to in the literature as 'resilient children'. Thus, resilient children are those individuals who appear to be coping well when one considers the environmental, personal and cognitive stressors and deprivations to which they are or have been exposed.

"Resilience is normal development under difficult conditions" (Fonagy et al, 1994).

These studies traditionally emphasized pathogenic variables in the person and the environment that predict psychiatric problems. Following the studies related to psychopathology, some studies were also administered in relation to sociological and health perspectives (the concept of "hardiness" was applied to explaining health resilience).

In relation to education, studies have mainly concentrated on the deleterious effects of adverse environments, such as poverty, racism and lack of opportunity on the school achievement of disadvantaged children. Issues such as motivation, self-esteem and socio-economic circumstances were examined in this respect, and were found to increase the risk of educational failure.

Thus, the concept of “educational resilience” (Joseph, 1995) was introduced to refer to those children who

“despite being at risk of educational failure due to adverse socio-economic circumstances, achieve educational success.” (p.110).

In her study of educationally resilient children in St. Lucia, Joseph (1995) found that some “protective factors” such as early attachment, good home and family environment, parental interest in education, having a mentor, internal locus of control and intellectual ability, predicted educational success in her sample.

To date, a review of studies on dyslexia and educational achievement suggest that the concept of resilience has not been applied to dyslexic children, though there is a good reason for doing so. There is evidence that some dyslexic individuals have managed to cope with their learning difficulties and achieve educational resilience. It is assumed that various socio-emotive factors may have contributed to their success, but little is known about these factors.

A definition of dyslexia that is adopted in this research, and which forms the basis for the study is the “Ability-Achievement” discrepancy definition, without claiming that this is the ‘only’ or the ‘best’ acceptable definition. There are criticisms against this definition (for example, Stanovich, 1991), mainly of the use of intelligence tests in assessing dyslexia, but in practice many countries, particularly the USA, adopt this definition for legislation. (The argument against and for the Ability-Achievement Discrepancy definition will be discussed later in Chapter III). The researcher adopts this definition to serve as an operational definition and to make the present study researchable. Children with cognitive inefficiencies such as dyslexia, are considered to be at risk of educational failure or of not achieving at a level consistent with their measured ability level. Researchers have also shown that, in addition to their educational under-functioning, dyslexic children are at risk of experiencing low self-esteem, and show behavioural, emotional and social maladjustment associated with their learning difficulties (Hales, 1987; Hales, 1990).

Klasen (1972) supports this idea and notes that

“..in all high developed civilization, reading and writing ability has become the most important bit of communication from highly scientific literature to street and traffic signs, menus, directories, advertisements, application forms, etc, it invades daily life. It is readily understood then that the failing reader soon comes to feel inadequate, isolated, and therefore hostile”. (p.95)

However, some dyslexic pupils manage to achieve relatively higher educational success despite their cognitive inefficiencies. Such dyslexic pupils are referred to in this research as “educationally resilient dyslexic pupils”.

This study, thus, sets out to examine those educationally resilient dyslexic children and their relatively less educationally resilient peers, in an attempt to identify the factors that contribute to their success, or conversely, to their difficulties in satisfactory adjustment. The researcher is of the opinion that it is important to identify and address the social and emotional problems of children with specific learning difficulties in the early stages as there is evidence to suggest that these difficulties may persist into adulthood (Gilroy and Miles, 1996; McLoughlin et al., 1994), and the earlier the intervention the better. Applying the findings of the present research may help in developing prevention and intervention strategies to assist dyslexic children in becoming educationally and socially more competent individuals.

The research question

The researcher’s interest in resilience has grown out of previous research conducted on educationally high- and low-achieving boys in a culturally disadvantaged community in Israel (Milgram and Palti, 1993). The subjects (52 boys in grades 1-8) were compared on a number of personality and social characteristics. Independent ratings, obtained from teachers, community public health nurses, and the boys themselves, showed that high achievers were superior on characteristics that enhance academic abilities. For example, they take more initiative, are more independent, reflective, alert, attentive to stimuli, self-confident, relaxed and

possess high frustration tolerance and low manifest anxiety. They also showed superiority on characteristics that facilitate seeking and attracting social support from peers and adults, such as making friends easily, helping others, receiving more attention and support from their social environment, and are more likely to enjoy positive relationships with family members and people outside the immediate family.

In her work with dyslexic children, the researcher was interested in illuminating those factors which help dyslexic children cope educationally and socially with their dyslexia type difficulty. The majority of educational research studies in the domain of dyslexia investigate why many children fail academically, i.e. what cognitive factors affect their ability to master literacy skills (Miles and Miles, 1990) and not why some children succeed despite adverse (social or personal) circumstances. In particular, no studies have been found in the current literature, that investigate the socio-emotional factors that assist dyslexic pupils in their educational struggle. Various personality, familial and/or social variables may have contributed to the satisfactory adjustment of dyslexic pupils. However, little is known about these factors, or the combination of these factors, which increase the possibility of resilience. The central research question is thus:

Is there a pattern of socio-emotional variables which enables dyslexic children to cope better with their specific difficulties in learning?

The present study is a response to this enigma, and suggests that there is a need to identify those personal/emotional/social variables that contribute to educational resilience of dyslexic pupils, or identify those variables that contributed to satisfactory achievements despite diagnosed cognitive inefficiencies. The emphasis in this research will be on dyslexic pupils. The reasons for choosing particularly this group: firstly, the interest and involvement of the researcher with dyslexic pupils; and secondly, the recognition that there is a need for more than just specific educational provision to help these pupils in their educational/social/personal development.

The researcher's general hypothesis for the study was that educationally resilient dyslexic pupils show a different cluster of socio-emotive factors than their educationally less achieving dyslexic peers, thus the differences in higher educational achievement can be, in part, explained by socio-emotive factors such as self-esteem, locus of control, impulsivity, sociability, attachment and other variables which are associated with resilience in the literature.

The main research objectives which guide the present study, thus, are to:

1. Identify or illuminate a range of personal/cognitive/social factors contributing to educational resilience among dyslexic pupils.
2. Determine whether those factors that lead to failure in some dyslexic pupils 'mirror' those which lead to success. i.e. determine whether a different set of factors contribute to resilience, contrasted with those factors that contribute to non-resilience.
3. Apply the findings to generate practical guide-lines for prevention and intervention programmes of at risk dyslexic pupils.
4. Explore the relationship between vulnerability on one hand and resilience on the other hand in a population of dyslexic children.

The plan of this study

Evidence from research supports the view that adverse life circumstances, such as poverty, divorce or institutionalisation, lead to the development of children 'at risk' of failure or ill health. There is also evidence, however, that in spite of these misfortunes, not all children show the negative developmental consequences typically associated with severe and prolonged social adversity. Indeed, some of these children develop as well-adjusted and coping adults, and are even successful in some areas. These children are referred to in the literature as "resilient children".

The present study first reviews the various theories relating to resilience and dyslexia, and attempts to draw together these concepts to form a comprehensive frame of work for this study (Chapter I).

The concept of resilience has been developed by theorists mainly in the field of psychopathology or health. A relatively recent study (Joseph, 1995) has examined the concept of “educational resilience” in adolescents and young adults from poor neighbourhoods in St. Lucia. Thus, an overview of the factors that are associated with resilience in the literature are presented (Chapter II).

To date, reviews of studies on dyslexia and educational achievement suggest that the concept of resilience has not been applied to dyslexic children, though there is a good reason for doing so. There is evidence that some dyslexic individuals have managed to cope with their learning difficulties and achieve educational resilience. It is assumed that various socio-emotive factors may have contributed to their success, but little is known about these factors. The concept of dyslexia, its presentation as a risk factor and the socio-emotive factors associated with dyslexia in the literature are reviewed (Chapter III).

Chapter IV explains the rationale and methods employed in the research undertaken to investigate the general hypothesis and the main research questions. The process of the research, the description of the research sample and the analysis of the data collected by using three questionnaires (Child, Family and School), and the B/G Steem questionnaire to measure self-esteem and locus of control, constitutes Chapter V. Chapter VI includes discussion of the results with reference to the tested hypotheses, along with concluding comments, the limitation and implications of the study. Based on the findings, suggestions are drawn for prevention and intervention strategies to assist dyslexic pupils achieve educational resilience.

Finally, an Appendix was prepared to include copies of the Child, Family and School Questionnaires. A copy of the B/G Steem Questionnaire to measure Self-Esteem and Locus of Control is also attached.

Chapter II

Literature review on resilience

Resilience

This chapter attempts to clarify and illuminate the relevant concepts used in this study. It attempts to give an understanding of resilience through a review of the literature. It will include stress factors, risky circumstances, protective (facilitating) factors and other different theoretical perspectives.

The concept of “resilience” is more complex than is often appreciated. No child is entirely resilient, every child functions better in some stressful situations than in others, and some children function far better than others in one situation or across many situations. To describe resilience, Garmezy (1985) prefers the term “stress-resistant” because of its more neutral connotations. However, because of its continuing use in the research literature, the term “resilient” is retained in this study to refer to the children themselves.

Historical perspective on resilience

Research perspectives on resilience have changed during the last ten years. Initially, the primary goal was to investigate why many children failed. Later, the trend developed into investigating why some have succeeded, despite adversity. This change led to more sophisticated conceptualisations, realistic programming, and greater success than was achieved by the former approach alone (Anthony, 1987; Garmezy, 1985). Researchers are aware that no one single ‘risk’ factor contributes to resilience or non-resilience, but that it is a complex or combination of social, environmental and personal factors. Due to the nature of this complex process it is difficult to analyse how the ‘risk’ factors affect and interact with each other.

Osborn (1990), suggested that in his study

“a particular protective or vulnerability factor achieved its effect on children’s competence partly because of its association with a variety of other contributory factors, and thus to speak of the ‘independent effect’ of a single factor is unrealistic” (p45).

Subsequently, some questions may be raised, such as:

- Is there any 'primary' factor that weighs more than the others amongst the complexity of the factors?
- Is it possible to suggest a hierarchy of factors according to their significance and relevance to the risky situation?
- Is it possible to identify a protective factor most relevant for each of the pathogenic circumstances?
- Is there a 'protective formula' that can be applied in risky situations?
- Is there a 'resilience-vulnerability continuum' where one end represents vulnerability and the other end represents resilience?

Review of the relevant literature suggests that no one has yet provided a reasonable and applicable suggestion for building a hierarchy of concepts, nor for a 'protective formula'. The majority of the research deals with the identification of risky situations, characteristics of resilient children, and possible 'protective factors'. None of the research, however, organises stress-resistant factors into a conceptual hierarchy, distinguishing between primary and secondary factors, or between necessary and sufficient ones.

A survey of the research literature on resilient children yields a number of generalisations. The generalisations deal with environmental stressors and supports on the one hand, and personal-social traits in the children themselves, on the other.

These generalisations included:

- a. the homes and neighbourhoods in which these children live are aversively stressful and problematic (Garmezy, 1983).
- b. positive environmental interaction and support are essential for children to acquire competence and confidence for living, working and playing well. Resilient children, like all children, require stable relationships with one or more emotionally intact and concerned family members, or with surrogate care-givers in order to function in a reasonable effective way (Anthony, 1974; Garmezy, 1983).
- c. however adverse the environmental resources to which disadvantaged children fall heir, resilient children appear to have received more care, concern, support and reinforcement than their less successful siblings and peers (Garmezy, 1981; Garmezy, 1983).

The remaining generalisations deal with individual differences in children in general and resilient children in particular, and these included:

- a. children differ from birth on many constitutional or temperamental traits, and perceptual, cognitive and personal-social capabilities (e.g. Murphy and Moriarty, 1976).
- b. children thrive, acquire competence and develop confidence when there is an optimal consistency between the demands and the rewards of the environment, and the corresponding response repertoire and motivation of the child. When there is inconsistency, children acquire inferiority feelings and become prone to mental disorders (Anthony, 1974; Chess, 1974).
- c. resilient children possess various stress-resistant personal-social characteristics that enhance their ability to thrive in the face of adversity.

There is evidence from the work of these researchers to suggest that resilient children possess stress-buffering characteristics or facilitators that help them cope with adverse life circumstances (or risk factors). It is also evident that resilience is a phenomenon which involves the complex interaction of factors related to the individuals and to their social surroundings. However, to the best of the researcher's knowledge, no research has yet investigated how some dyslexic individuals manage to cope with their difficulties and achieve satisfactory academic results and social competence. It is assumed that not all risk factors eventually lead to adverse outcomes (Rutter and Madge, 1976) and that children react differently to stress generating factors. Some children may generalise their response to stress into other situations, while others may have a situation specific response. In relation to dyslexic children, some may show vulnerability specific to education and not other problems, while others may displace or generalise this vulnerability to socio-emotive problems. Some may cope effectively with the stress factor by maintaining a firm control over their environment and/or by remaining positive and hopeful (Anthony, 1987) while others may generate ineffective response to stress such as behavioural problems that further interfere with effective functioning at school or at home. It is hoped that the present research will help in identifying these personal and social facilitating factors that correlate most with educational resilience in dyslexic pupils, and illuminate how dyslexic pupils cope with their risk factor at home and in school. Hence the administration of the present study's questionnaires to the school, parents and the child himself.

Resilience (Hardiness) and health

The study of stress and resilience as it relates to the development of illness has been an area of active inquiry for the past ten to twenty years. There has been increasing recognition that constant and intense stress is related to illnesses. Research on the stress-illness relationship showed a broad spectrum of effects such as compromising immune function to the point that it can speed the metastasis of cancer and increasing vulnerability to viral infections (Kobasa, 1982). The brain itself is also susceptible to the long-term effects of sustained stress, including damage to the memory (McEwen, 1993). However, despite this evidence some individuals react positively to the stressful situations and thrive on them despite the deleterious effects of stress (Kobasa, 1982). Researchers have been trying to identify these stress-buffering variables which help individuals cope effectively with stressful events. One area of research on stress-moderating variables has centred on the personality construct of hardiness (resilience), which is composed of three concepts: commitment, control, and challenge (Kobasa, 1982). In general, research indicates that hardiness is associated with lower levels of illness in the face of high stress (Kobasa and Puccetti, 1983). A hardy individual possesses a strong sense of all three dimensions, which act together to help buffer the debilitating effects of life stresses, such as physical illness.

A second mediating factor in the stress-illness relationship that has received much attention in the past decade is social support. As Schradle and Dougher (1985) pointed out, social support seems to play a role in the etiology of both physical and mental disorders.

Other stress-moderating variables such as locus of control (Luthar, 1991), self-esteem (Hull, Van Treuren and Virnelli, 1987), Type A behaviour (Kobasa, Maddi and Zola, 1983), and constitutional predisposition (Kobasa, Maddi and Courington, 1981) have also received some attention. Stress alone does not cause disease but it is one of several interacting factors, and it may exacerbate medical problems (Goleman, 1996). The stress-illness relationship has been debated and some researchers suggest that there is confusion on the causal relationship. Tatham (1988)

described this relationship by noting that “illness may not always be ‘all-in-the-mind’, but, there is always mind in illness” (p.35). Others have suggested that the results achieved by stress-illness studies are not conclusive and were effected by methodological problems.

In order to help the individual neutralise the debilitating effects of stressful situations, studies have been trying to identify those stress moderating variables. Some of these variables will be outlined in the next section.

Coping with stress

In his work on stress, Seyle (1956) explored the physiological responses to stress and as a result has developed his concept of the “general adaptation syndrome” which consists of three phases. The first is the alarm phase in which the individual mobilises itself to meet the threat. The second is the resistant phase in which the individual makes an attempt to cope with the threat. The third phase is when exhaustion occurs if the individual fails to overcome the threat, and depletes its physiological resources in the process of trying. Gal and Lazarus (1975) also supported the model by stating that physiological responses to stress could not be considered as psychological but as indicators of general arousal and mobilisation. They further note that individuals can alter their physiological stress reactions in a given situation just by taking action. This will, consequently, affect the perceived appraisal of the situation thereby changing the stress reaction. Cognitive theories of stress have predominantly dealt with coping as an effective problem-solving procedure. Resources of coping with stress have been identified under different categories such as personal and social resources. These resources are utilised until the individuals feel success in coping with the stressful situation. Some individuals adopt coping strategies of avoidance while others adopt the approach strategies. In many situations both strategies are essential for effective coping. It may be useful to utilise the avoidance strategy in the short run as they allow the individual to gradually deal with the stressful situation without becoming emotionally or physically overwhelmed.

In the long run, approach strategies may become necessary in removing or managing the objective effects of stress provoking situations (Gunnar et al. 1989).

However, Schonpflug (1990) in his study has shown that

“states of stress are aggravated and prolonged if coping strategies are ineffective or even generate new problems”. (p. 53).

Certain degrees of stress are considered to be normal and even beneficial for effective functioning (Seyle, 1980) but, uncontrolled amounts or chronically stressful situations will lead to behaviour maladaptation interfering with effective functioning in the family, school and/or social environment. Garmezy, Masten and Tellegen, (1984) provided the “challenge hypothesis” whereby coping with stress can enhance growth and adaptation in some situations. Hull et al. (1987) suggested that stress cannot be conceived in terms of an external event independent of the individual’s appraisal of the event, and that some individuals are more likely than others to appraise events in such a way that evoke a stress response. Reaction to stress and the amount of tolerance for stress differs from individual to individual. Some children may perceive a specific situation as stressful while others may not, and similarly, some children may cope with the stress inducing factors successfully and may not necessarily display maladaptive behaviour. Stressful situations and ways of coping with them are dealt with extensively in the child and adult development literature, and are profound areas for therapeutic interventions. Although it is important to know what coping strategies an individual can use to buffer the effects of stress, other aspects which contribute to the process of coping, such as social support or personality components (hardiness) must be considered as well. It is also important to try and find out: are there stress-buffering variables which the individual can learn to develop? How does stress affect different individuals at different periods of their life, and how does it interact with gender, age and other variables?

In general, it must be said that stress in and of itself is not a risk factor. It is in combination with other significant biological, social and environmental variables that it may have significant impact. Some studies have identified stress-mediating

variables and these were categorised under variables related to the individuals and those related to their environment (Kobasa, 1979). There is debate concerning the interaction of these variables with the individual and the environment, and their effectiveness as stress-buffering variables. Thus, is dyslexia in and of itself a risk factor, or is it in combination with other variables that it may have a significant impact. The impact of dyslexia, as a stress inducing factor, varies in context. Namely, in cultures where education is highly valued, academic inefficiency may be perceived as a stress inducing factor by those who experience the difficulty as well as by their social surrounding. Conversely, in cultures where survival rather than education is an essential component, dyslexia may not be perceived as a stress inducing factor. Similarly, for an individual struggling with health problems, academic success may not be a priority, and dyslexia may not be perceived as a stress inducing factor when physical and/or mental well being is the urgent issue. This issue of priority reflects Maslow's (1970) identified hierarchy of needs where a need can emerge only if the previous, lower level, need is satisfied. Namely, education becomes an important matter only if the individual's basic needs (survival) are satisfied. Thus, dyslexia can be perceived as a risk factor in societies where education is valued and where the individual's needs are at a level where academic success is important. In general, it must be said that dyslexia in and of itself is not a risk factor. It is in combination with other significant biological, social and environmental variables that it may have a significant impact. In a western society where education is a valued component and where the present study takes place, it is reasonable to assume that dyslexia may well be considered a risk or a stress inducing factor. This study aims to identify those personal/social characteristics contributing to educational resilience among dyslexic pupils, taking into account the family, school and personal milieu.

The following section will try to summarise those circumstances which research implicate as stress inducing or risky circumstances.

Stressful situations or ‘risky’ circumstances

The link between poverty or social disadvantage and ill health is clear and consistent (Health Education Council, 1987). Children of poor families are more at risk than their affluent counterparts. Poor children are much more likely than their affluent counterparts to be smaller, thinner and to suffer more illness. This is partly attributed to inferior housing conditions and to poor diet. Bradshaw and Morgan (1987), found that the poor children’s diets tended to be too high in fats, too low in fibre and deficient in calories. They may live in physically unsatisfactory, overcrowded and unsanitary conditions. The lives of poor families are often characterised by stress both for parents and children. There is stress for parents about whether children will be fed, clothed and educated properly. And, stress for children watching their parents struggle to ‘survive’. Some of these experiences are known to affect adversely behaviour and educational attainment for children, and reduce their chances of a positive life at a later developmental stage (Pilling, 1990). Rutter’s (1979) cumulative stressor hypothesis has confirmed that the child’s behaviour problems increase with the number of family stressors. In isolation any one of the family stressors was not associated with an increased likelihood of child behaviour problems, but when two or more stressors were present, the risk of child behaviour problems was found to increase by two to four fold in the researched communities (Rutter, 1979). Some of the family stressors included overcrowding in the home or large family size, the mother suffering from depression or a neurotic disorder, the father having been convicted of any offence against the law or marital problems.

Defining poverty is not simple as it is culturally relative. Poverty is relative to the immediate environment and it is difficult to define: how much poor is poor? For example, does not possessing a TV, or a cooker or even a car mean ‘poverty’? (it does in some cultures). And, does possessing a TV imply wealth? (it is in some cultures). In a recent research review, Cannan (1992) pointed out that many parents who experience difficulties with their children did indeed have an adverse childhood themselves. This is explained in Birch and Gusso’s (1970) “transgenerational model of poverty” where adverse family situations may lead to

circumstances where children experience similar adversity to their parents. This may suggest that some people may psychologically re-create poverty, or any other adverse circumstance, so that poverty is not only culturally relative, but may also be 'subjectively relative'. The idea that 'risky' circumstances may be culturally relative and 'subjectively relative' can be applied to any other identified stress factor.

Fonagy et al. (1994) identified other stress causing situations within the family and these were: divorce; hospitalisation of children; both parents or even one absent parent; abuse; violence; birth of a sibling; and separation. Unrealistic expectations by parents of their children to achieve academically is another source of stress both for the parents and for the children. In addition, competitive school environments may lead to stressful situations threatening children's self-esteem and their sense of worth, which in turn may lead to behaviour and social problems. These findings are particularly relevant to the present study. The difficulties dyslexic pupils experience are most apparent in the school environment, rendering the learning experience a highly stressful experience for them. Their constant struggle to cope with their learning difficulties, and at times their failure to achieve satisfactory standards, may have a fundamental effect on their sense of worth, which in turn may lead to behaviour/emotional problems. In other words, maladjusted behaviour may be a reflection of maladjusted self-concept, and this may be relevant for dyslexic pupils for whom the school environment is a constant stress generating environment. Though some researchers have investigated the correlation between lack of academic achievement and self-esteem in dyslexic pupils (Rosenthal, 1973), no study to the researcher's knowledge has investigated what resources dyslexic pupils use in their attempt to master these stressful circumstances, i.e. what factors assist them in achieving educational resilience. This study aims to investigate these socio-emotive factors.

Coping effectively in the face of stressful life events is easily seen as an indicator of adjustment and even optimal behaviour. Avoiding stressful situations in order to stay healthy may act as an obstacle to productive life. It may mean giving up positive changes like a job promotion or moving to better housing. However,

stressful situations are not always avoidable and are sometimes not open to deliberate choice. For example, it is difficult to avoid some stressful situations such as the death of a close person, war or natural disasters. Lazarus's (1977) cognitive theory of stress refers to stress as the outcome of the individuals' appraisal of the threat to their well being relative to their appraisal of their coping resources, taking into account the costs and the benefits in the specific situation. The individuals evaluate a situation in relation to a concern for safety and become ready to freeze, fight, or flee. With this cognitive theory of stress, Lazarus (1977) is not only defining subjectively stressful situations, but is also providing us with a conceptual framework for "resilience". This model refers to the individuals' subjective appraisal of the situation (which may also be culturally relative), and to the individuals' appraisal of their coping resources which render them "resilient" individuals by correctly 'calculating' the costs and the benefits of a specific action in a specific situation.

Chandler (1984) defines stress as a state of tension emanating from events or situations perceived by the individual as threatening. This emotional tension can function as a motivator as the individual attempts to cope with stress. But Chandler believes that the very attempt to cope may result in stress responses ranging from healthy, positive and effective ones to pathological ones that are both ineffective and counterproductive.

The coping resources, or stress moderating variables may also be, in the researcher's opinion, perceived as "facilitators" in the sense that they make it possible for the individual to cope with the adverse circumstances. The "facilitators" are the repository of traits important for survival (physical and mental). The "facilitators" which the individual may be conscious or unconscious of, are in the centre of the research on resilience, and are referred to as the characteristics of "resilient" individuals.

Characteristics of “resilient” children

Many investigators have proposed a profile of characteristics applicable to resilient individuals. Some focused on personal resources that contribute to optimal mental health in all people, regardless of age or life circumstance (e.g., Anderson and Messick, 1974; Gilmore, 1974). Others derived stress-moderating variables from *a priori* assessment of the personal requirements of children for mastery in stressful situations or from empirical data in the field (Anthony, 1974; Chess, 1974; Garmezy, 1983). They did not, however, organise these stress-resistant factors into a conceptual hierarchy, distinguish between primary and secondary factors, or between necessary and sufficient ones. But, a distinction was made between personal and social characteristics. Garmezy (1985) described those characteristics as moderators of stress or a risk situation which enable an individual to adapt more successfully than would be the case if the “protective factors” were not present. Rutter (1990) refines this view and suggests that “protective factors” may help in decreasing the weight or the effect of a risk factor in high risk situations, increasing the adaptability of the individual, but they are less effective in low risk individuals. Thus, the effectiveness of a protective factor is relative to the individual’s vulnerability and to the risky situation. It is clear that it is important to identify those individual characteristics of resilience, as opposed to focusing only on the deleterious effects of various adverse conditions on children. Identification of the so called protective factors may be more instrumental when the aim is to build a specific and individual intervention programme for children as well as for adults. The term “protective factor” suggests that the individuals are surrounded by a shield, like a turtle, which protects them from the adverse circumstances. It may also suggest that the individuals are passive in the process of resilience, and do not actively contribute to their well-being. The researcher prefers, in this study to replace the term “protective factor” with the term “facilitator”. A “facilitator” allows the individuals actively to use their resources in dealing with the adverse circumstances. It enhances various individual characteristics that help in dealing with stressful experiences, rather than forming a protective shield. The current study aims to identify those facilitating factors present in dyslexic pupils, and to investigate whether or not educationally resilient dyslexic pupils contribute actively

to their well being. For example, one factor that is investigated in this study and that was found in the literature to correlate with resilience is locus of control. Researchers have shown that resilient individuals demonstrate an internal locus of control (Luthar, 1991), i.e. they believe in their ability to control the environment, rather than believing that the circumstances are determinative. Also, internal locus of control suggests that the individuals accept the responsibility for their own performance, and as a result take an active part in dealing with stressful situations. In this study the correlation between locus of control and educational resilience of dyslexic pupils is investigated with the aim of assessing whether or not educationally resilient dyslexic pupils use their internal resources in the process of coping with stress. Another factor that is found to correlate with resilience in the literature and to require active involvement of the individual in the resilience process is social competence (Garmezy, 1981). Individuals with competent social skills are found to elicit positive responses from their social surrounding and to positively affect the child-significant other relationship, which in turn enhances resilience (Clark, 1983). It is reasonable, thus, to assume that each facilitator helps to reduce the level of stress induced by the risk factor, and that the more facilitating factors the individual has the easier it would be to cope effectively with the risk factor. Lack of facilitating factors in the presence of risk factors may have a detrimental effect on the well being of the individual.

In this study, the researcher aims to investigate the facilitating factors found in the individual and the social context, and to illuminate their effects on the study's educationally resilient dyslexic pupils.

Facilitators

Garmezy (1985), Grossman et al. (1992), Fonagy et al. (1994), and Kobasa (1982) presented three broad categories of facilitators, and these are (not listed in any priority order):

1. Facilitators present in the individual or personality.
2. Facilitators present in the family milieu.
3. Facilitators present in the immediate social environment.

Facilitators present in the individual or personality.

Intelligence is thought by some researchers to have facilitating effects, thus promoting resilience (Garmezy, 1985) while others (Luthar, 1991) have shown that intelligence can be effective only for low level stress. Its effect is lessened in the face of high level stress, and children with high intelligence may function at a similar level with children of lower intelligence. This view strengthens Rutter's (1990) claim that the effects of facilitators are relative in strength and depend on the interaction of individual and environmental factors. Good problem-solving ability, good coping styles, and willingness and capacity to plan may serve as facilitators by enhancing various individual characteristics such as self-esteem and self-worth. Empirical evidence has found self-esteem to correlate with emotional adjustment, social functioning, and mental health (Rosenberg, 1965; Coopersmith, 1967). Individuals high in self-esteem have been found to be more ambitious, confident and competitive, whereas individuals low in self-esteem have been found to be more likely to exhibit anxiety and neurotic behaviours, and to perform less effectively under stress and failure (Rosenberg, 1965).

Research has demonstrated that locus of control is an effective factor in the protective process and is present in resilient children (Luthar, 1991). Locus of control suggests that the individuals believe in their ability to control the environment and take personal responsibility in their learning and performance, rather than believing that the external environment is determinative. This is similar to Dweck and Leggett's (1988) observation of individuals showing mastery-

oriented strategies where the individuals generally seek explanations for failure that may lead to improved performance. The process..

“ involves the seeking of challenging tasks and the generation of effective strategies in the face of obstacles”

...it is an adaptive stance as it is characterised with

“enjoyment of challenge and willingness to sustain engagement with difficult tasks” (Dweck and Leggett, 1988 p.257).

In the face of failure, these individuals do not attribute failure to their personal inability, but rather they view the unsolved problem as a challenge, and search effective strategies to solve the problem. They believe that their efforts would be fruitful and that they will overcome the obstacle and reach the solution, i.e. they have some control over the environment. Conversely, a ‘helpless’ response pattern is described as

“an avoidance of challenge and a deterioration of performance in the face of obstacles” (Dweck and Leggett, 1988, p. 256),

resulting in the individuals putting less effort into achievement. This type of response may be more apparent in vulnerable individuals.

Interpersonal awareness and empathy, sense of humour and positive temperament have been shown to be possible personal facilitators (Pellegrini, 1985; Masten, 1982). There are also recurring references, in the literature of resilience, to an outer-directed behavioural repertoire characterised by social charm and attractiveness, being at ease with other people, enjoying their company, seeking their support when needed, and offering one’s own support to others in need (Farber and Egeland, 1987; Felsman and Vaillant, 1987; Garmezy, 1981; Murphy and Moriarty, 1976). (Many of these features are investigated in the present study.)

The concepts of social interest and social competence have many theoretical advantages. First, they bring together the three elements in Garmezy’s triad of stress-resistant factors: the person, the family and the community. Children who possess social interest and social competence are better able to elicit positive responses from parents, siblings, relatives and peers, than less socially competent

children. Second, they acknowledge the role of the children in shaping the behaviour of significant others in their environment. In the literature this issue is referred to as the child-adult or child-parent effect (Bell, 1968). Third, this behavioural complex is especially important to disadvantaged children, because environmental resources such as advice, practical assistance, encouragement and empathy, may not be forthcoming from the major figures in the home, school and community. These children must either take the initiative, search out scarce environmental resources and successfully acquire them on their own, or do without them. Children who possess these important social skills manage to engage the others and acquire substantial environmental support. Peers and adults who meet them become their friends or mentors because of their positive response to the charm, social sensitivity and other pleasing features in the personalities of these children. These social characteristics connote both willingness and skill: the willingness to ask for and to accept social support when it is offered, and the skills to ask for support in a way that insures positive responses. Providing support and helping others in a pleasing way elicits from others the desire to reciprocate. Fourth, a number of studies have highlighted the positive contribution of social interest and social competence to the mental health, superior adjustment and lack of mental illness of resilient children.

Garmezy (1981) found that children living in highly stressful, depriving environments, who were rated by their teachers as high in social competence, were nearly equivalent to adaptable children living in highly favourable environments on a wide variety of psychometric measures. The most striking difference between the high and low adaptive groups living in stressful communities was in their peer sociometric ratings, suggesting that it was a major contributing factor to the criterial differences between resilient and non-resilient groups. Garmezy (1981) also reported that black urban ghetto children rated as resilient by independent criteria were described by their teachers as possessing social skills, as being co-operative, socially responsive and well-liked by peers and adults.

Rutter (1979) found that disadvantaged children with positive social resources were far less likely to become the victims of incessant parental criticism than children without them. The researcher values the importance of social support and the development of efficient social skills in the process of resilience. Dyslexic children are at risk of lacking this support particularly in situations where academic success is important and there is a high level of competition. They may be rejected by their peers and generate negative feelings in adults (teachers or carers) because of their inefficiencies. Parents tend to hold rather negative perceptions of their learning disabled children's academic and social abilities (McLaughlin et al., 1987). They may, therefore, need to invest more effort and find various ways to fulfil the need to be accepted (Maslow, 1970), and this may not always take a positive form. There is a risk that they may use disruptive behaviour as a way to gain attention from others, not always understanding that the attention gained does not mean acceptance. Thus, in the current study, the researcher aims to investigate if and how the study's educationally resilient pupils manage to engage their social surroundings to acquire the necessary support they need in order to cope with their difficulties. In other words, how, if at all, do the educationally resilient dyslexic pupils use their own resources to elicit the required social support. It is hoped that the present study will help in better understanding this behavioural complex, particularly in relation to resilience of dyslexic pupils.

There is evidence that absence of organic deficit, and the age and gender of the individual at the time of the stressful situation are also important (Fonagy et al., 1994). Pre- or post-natal damage to the central nervous system makes children less capable and correspondingly more vulnerable than children with a "normal" pregnancy and birth history (Anthony, 1974).

Heider (1966) noted that some infants are of robust physique and good health while others are not. He attributed these differences to neurological damage at birth or early in the developmental period after birth, and found that they predict later vulnerability status.

The individual or personality variable that is most frequently cited in the stress-illness literature is hardiness. Kobasa (1982) conducted research to determine the personality characteristics of individuals who remain healthy despite stressful life events. Building her research on existential theory of personality, Kobasa (1982) suggested that three existential concepts appear especially relevant, and these are: commitment, control and challenge. Together these comprise the personality style of stress resistance or hardiness which decreases the number and severity of illness reports in the face of stress. According to Kobasa (1982) the Commitment Disposition, as opposed to experiencing alienation from, is

“the ability to believe in the...value of who one is and what one is doing and thereby the tendency to involve oneself fully in many situations of life including work, family, interpersonal relations, and social institutions” (p.6).

The committed persons know not only what they are involved in, but also why the involvement was chosen. With commitment comes the recognition of one's distinctive goals and priorities and the appreciation of one's ability to make decisions and hold values. The committed individuals are able to identify with and find meaningful the events, things, and persons of their environment. Their relationships involve activeness rather than passivity and avoidance. Commitment is more than self-esteem or personal competence because it is based in a sense of community. Committed persons benefit from both the knowledge that they can turn to others in stressful times if they need to and the sense that others are counting on their not giving up in times of great pressure. Committed persons have both the skill and the desire to cope successfully with stress. This concept, in the researcher's opinion, is particularly relevant to the present study. Because of the difficulties dyslexic pupils experience in their academic and social life, it is at times inevitable for them to feel alienated, rendering them more vulnerable to the stressful circumstances. Thus, the present study aims to investigate whether or not the educationally resilient pupils have managed to develop the sense of commitment and what social resources they actively adopt in their process of developing resilience.

Kobasa et al. (1982) define Control as the tendency to believe and act as if one can influence the course of events. Control allows persons to perceive many stressful life events as predictable consequences of their own activity and, thereby, as subject to their direction and manipulation. Control involves the possession of a coping repertoire which includes a variety of effective behavioural responses to stressful life events. The responses may be through the exercise of imagination, knowledge, skill and choice.

Challenge is based on the belief that change, rather than stability, is the normative mode of life (Kobasa, 1982). From the perspective of challenge, much of the disruption associated with the occurrence of a stressful life event can be anticipated as an opportunity and incentive for personal growth, rather than a simple threat to security. Because of their search for new and interesting experiences, persons who welcome challenge have explored their surroundings and know where to turn for resources to aid their coping with stress. Challenged individuals are characterised by openness, they possess cognitive flexibility and tolerance of ambiguity, which allows them to integrate and appraise effectively the stressful life events. Additional confirmation for this view came from Garnezy, Masten and Tellegen (1984) who provided the “challenge hypothesis” whereby coping with stress can enhance growth and adaptation in some situations. The question here is, can dyslexic pupils perceive their experienced difficulties as a challenge, and consequently cope with them more effectively?.

A commonly cited research about hardiness was conducted by Kobasa (1979). In her study of business executives, she investigated how persons who have lived very stressful but healthy lives (high stress/low illness) are different from those who have fallen ill under comparable stress (high stress/high illness). She directed this question to middle- and upper-level business executives, by using self reported questionnaires, and found that high stress/low illness executives were significantly different from the high stress/high illness subjects in hardiness. However, Kobasa's study received controversial responses and there is debate concerning more precise components of hardiness. Funk and Houston (1987) in their replicated study on hardiness, found hardiness to be related to later depression, but it was not related to

later physical illness. They suggested that the results of research on hardiness are in part a function of the statistical methods employed, and that the hardiness measure should be modified in ways that make it more distinct from other measures, such as maladjustment. Hull et al. (1987) in their study of hardiness concluded that the subcomponent of challenge appeared not to contribute to the prediction of health outcomes and therefore hardiness ought not to be treated as a unitary construct. Furthermore, they found that challenge does not correlate with other variables that do correlate with commitment and control, such as depression, optimism and self-esteem. In addition, Hull et al. (1987) noted that the personality characteristics that were used to determine whether high stress was associated with high or low illness cannot be given a causal interpretation. The self-reported personality data, they noted, could easily be the result of illness, stress, or their interaction, i.e. the stressful person may feel pessimistic enough to fill out personality questionnaires in a manner suggesting a settled sense of alienation, powerlessness, or fear of challenge. As a result of their study, Hull et al. (1987) concluded that:

- a. hardiness is not a unitary phenomenon, but should be treated as involving three separate phenomena.
- b. only commitment and control have adequate psychometric properties and are systematically related to health outcomes.
- c. lack of commitment and lack of control have direct effects on health because they are psychologically stressful.
- d. the buffering effects are situation-specific.

Some studies have suggested that other variables, such as gender, age, SES, may have an effect on hardiness. Schmied and Lawler (1986) noted that personality characteristics that constitute hardiness in men may not be the same characteristics that compose it in women.

To the knowledge of the researcher, no study is found to investigate the relevance of “hardiness” to dyslexia, though this may provide a framework for investigating resilience of educationally competent dyslexic pupils. Educationally resilient dyslexic pupils may be perceived as ‘hardy’ individuals in the face of their increased risk of an adverse outcome as a result of dyslexia. However, hardiness is not a unitary phenomena (Hull et al., 1987), nor is resilience. But it is essential to identify the individual factors that are likely to promote success in the face of adverse life circumstances, and the three personal attributes of hardiness (commitment, challenge and control) may be a possible framework in investigating educational resilience of dyslexic pupils.

Facilitators present in the family milieu

Children’s development is influenced by poor, abusive, neglectful, and inappropriate care (Scarr, 1992), thus the family milieu is an important area for research.

Competent parenting and a good (warm) relationship with at least one primary caregiver has been shown to have a major role in developing high self-esteem, self-worth (Rosenberg, 1965) and other important attributes which are found to be instrumental for the development of psychological functioning which appear to facilitate stress management. The availability (in adulthood) of social support from spouse, family or other figures, and higher SES are also thought to be important in enhancing the facilitators of the individual. Research demonstrates that early attachment to a significant other may help in the development of the children’s ability to master difficult and challenging tasks, face problems confidently and enthusiastically, and develop flexibility when confronted with stressful situations (Sameroff et al., 1982). The literature suggests that insecure attachment increases the chance of poor adjustment later. Such children are said to exhibit more negative affect, be less compliant, and exhibit less self-regulation than children rated as having more secure relationships with their mothers (Scarr, 1992). Osborn (1990) suggested that in his study the attitudes and behaviour of the parents contributed

most to the probability that socially disadvantaged children achieved competence. He described these parents as showing non-authoritarian attitudes, they practice child-centered parenting and have strong positive attitudes to the children's education. These positive factors outweighed the contextual factors associated with factors increasing risk, such as marital disharmony, divorce and separation. In addition, Osborn (1990) reports that parents who have the personal resources to cope with the stress of adverse circumstances and take an active and positive interest in their children and their education, increase the chances of these children achieving competence in the face of adversity. Fonagy et al. (1994) summed up this as resilient children are "securely attached" children. There is evidence that children who developed early attachment with a significant other, were more readily able to challenge difficult tasks (Sroufe, 1988), and that early attachment could predict many attributes that are found to correlate with resilience in later developmental stages (Fonagy et al., 1994).

The current study aims to investigate the effects of the family milieu in the process of resilience of the study's dyslexic pupils. The diagnosis of dyslexia in children is likely to cause a variety of stresses and concerns for the parents of these children. The attitude of the family towards children with a specific learning difficulty affects the children's performance in school, their self-concept and motivation (McLaughlin, 1985). Parents tend to hold rather negative perceptions of their learning disabled children's academic and social abilities (McLaughlin et al., 1987). Consequently, one of the objectives of the present study is to investigate the relationships of the study's dyslexic pupils with others in their family. The aim is to find out whether or not the dyslexic pupils in this study have developed a satisfying (in their own perception) relationship with at least one family member, and if this relationship correlated with educational resilience. To the knowledge of the researcher, no study has yet investigated attachment or positive relationships with a significant other in the family, as a facilitating factor for educationally resilient dyslexic pupils, though there is evidence of the importance of attachment on resilience in the literature of resilience (Scarr, 1992).

Facilitators present in the immediate social environment.

Social environmental facilitators in the literature of resilience include: better network of informal relationships and formal social support, involvement with organised religious activity and faith, a significant other outside the family acting as a mentor, and better educational experience (Werner and Smith 1982; Garnezy, 1983; Werner 1990). These findings were adopted by the researcher and were taken into account when compiling the Child Questionnaire (see appendix) which was used in the researcher's previous study (Milgram and Palti, 1993). The Child Questionnaire, in part refined to suit the present study, aimed to gather information on the children's perception of their social support, their relationships with significant others and their educational experience, bearing in mind that these factors were found to correlate with resilience, and there is no reason to doubt their correlation with educational resilience of dyslexic pupils.

Good relationships with a teacher may generate the positive attributes associated with the effects of a mentor on the child's positive adjustment to the environment. In addition, the feelings associated with positive and reinforcing learning experiences may be transferred to other situations, enhancing the ability to deal with stressful situations effectively (Rutter and Quinton, 1984). Better educational experience may also be associated with higher levels of intelligence. Garnezy (1985) has shown that a significant other, who can be a teacher, a doctor or a priest, not only takes keen interest in the child, but is also a source of help in enhancing self-esteem, providing emotional support, acting as a motivator, and as a source of inspiration as well as a model to the child. A relationship with a mentor is important particularly in the absence of a good parent-child relationship. A mentor acts as a substitute for supportive and interested parents. Garnezy (1981), Rutter (1979) and Werner (1984) also supported the importance of a significant other. They believe that a child who is vulnerable needs emotional support from a powerful role model outside the immediate family circle. Some significant others mentioned in studies of resilience are church personnel, a favourite teacher or a good neighbour.

In addition, active involvement with religion is believed to create a sense of expectancy that all will be well, in addition to nourishment for aspirations (Pilling, 1990) which are important for coping with stressful situations. McGready (1994) suggests that a religious community can compensate in several ways for a lack of support from less functioning families. The religious group can become a primary source for the sense of belongingness which is an important stress reducing factor, increasing the probability of a child's resilience in high risk situations.

Cobb (1976) has defined social support more specifically as information that leads individuals to believe that they are cared for and loved, are esteemed and valued, and belong to a network of communication and mutual obligation. Schaefer, Coyne and Lazarus (1981) identified three dimensions of social support: emotional support, which involves intimacy and receiving reassurance; tangible support, or the provision of direct aid and services; and informational support, which includes advice concerning solutions to one's problems and feedback about one's behaviour. However, results concerning the stress-buffering effects of social support are mixed, and some studies have not found that social support alone interacts with stress (Ganellen et al., 1984). This notion which emphasises the complexity of the study of resilience is accepted by the researcher. Hence, the search for various facilitating factors present in the educationally resilient pupils, in their social and familial context, and the study of the interaction between them. Garmezy (1985) strengthens this view by claiming that there is no single source or even a multiple of sources that can explain the process of resilience, and therefore, researchers should take into account child, family and environmental variables, and the interaction between them.

In summary, research suggests that a multitude of factors, such as personal, biological, social and environmental, are instrumental in influencing the development of "facilitating" factors or resilience in individuals. These factors transact to detract or to promote competent adaptation in the individual. However, the potency of any specific risk or facilitating factor in influencing adaptation varies as a result of the developmental period and the social environmental context in which they occur (Cicchetti, 1984). The complexity of the facilitating factor is not

only in the complexity of its transactional nature but also in the complexity of its definition. This complexity of definition applies also to other concepts such as 'self-esteem', 'resilience', 'risk factors', etc. where an 'absolute' or unanimously agreed upon working definition is not yet found in the literature. But, lack of agreement on definition does not prevent acquisition of valuable information and understanding of the nature of the process.

The complexity of facilitating factors

The global view in the relevant literature is that a great number of "facilitating" factors have been identified (Garmezy, 1985; Fonagy et al., 1994; Kobasa, 1982). However, it is clear that there is no one satisfactory definition neither of resilience nor of facilitating factors, and particularly no clear and satisfactory explanation of how they interact in the process of resilience (Garmezy, 1985). Rutter (1990) suggested that resilience is a process which characterises a complex social system at a given time, and includes combinations of factors related to the child, family, social and cultural environments. Transactional development theories (Sameroff and Chandler, 1975) in their attempt to clarify the resilience process, emphasise the multiple pathways that can, under different circumstances, lead to similar or divergent behavioural outcomes. Garmezy (1985) summarises this enigma and concludes that there is no single source or even a multiple of sources to which one can turn in order to understand the process. There is no distinct formula for the outcome of resilience. Any future research, therefore, must take into account child, family and environmental variables, and the interaction between them. If the phenomenon of resilience, therefore, is still an enigma, one may infer that vulnerability, which in the literature is often a co-existing factor with resilience, should be treated in the same way, as a not satisfactorily defined or not completely understood attribute. Consequently, the whole perception of the resilience-vulnerability continuum is very foggy, and its existence is questionable. There is no concrete evidence that resilient children are not vulnerable in other situations (Werner, 1993). Also, lack of facilitating factors in vulnerable children does not mean that they are doomed forever to be vulnerable. Resilience is not consistent over time and situations (Werner, 1993). Resilient children may develop into

vulnerable adults, and similarly, vulnerable children may develop into resilient adults. Resilience changes from infancy to adulthood, and sometimes even over months and days. It certainly changes from situation to situation. Some facilitating factors may prove harmful to some individuals, and some harmful factors may prove facilitating to some individuals. Thus, if the concepts of “resilience” or “vulnerability” are so ambiguous, unstable or versatile, maybe there is a need to look into different variables or combination of variables in those relatively well-adjusted individuals. The relativity factor is very important because being ‘well-adjusted’ is perceived differently in different cultures and context. An individual is ‘well-adjusted’ in relation to his environment and culture. Similarly, the stressful situations and risky factors listed above may be perceived in terms of ‘relativity’, i.e. how much poor is poor? Does ‘poverty’ have a similar meaning in different cultures?. Also, is “resilience” a response to difficulty or adversity? Or, is it a ‘personality trait’? Many of the resilient cases cannot be perceived as individual cases but as socially constructed and defined. They arise out of the relationships with others and the environment, and they can affect those relationships.

Rutter (1979) described the studies on resilience in these terms

“We are nowhere near the stage when any kind of overall conclusions can be drawn. What is clear, though, is that there is an important issue to investigate. Many children do not succumb to deprivation and it is important that we determine why this is so and what it is that protects them from the hazards they face.” (p. 70)

Currently, after an enormous amount of research on resilience, we are still “nowhere near the stage when any kind of overall conclusion can be drawn” (Rutter, 1979, p. 70) but we are equipped with very important and substantial knowledge which may pave the way to a clearer understanding of resilience. We are now more aware of ‘risk’ as well as ‘facilitating’ factors (despite the controversy of their operational definition). There is more knowledge about risky circumstances and risk-reducing circumstances. It is also evident that resilience is not a consequence of one single factor, but that it is a process which involves the interaction of different biological, individual, social and environmental factors (Garmezy, 1985). It is very difficult to know where resilience ends and vulnerability

begins, or if indeed it is sensible to try and make such a distinction, as it is possible that the apparent escape from any perceived disadvantage is illusory and arises from problems of measurement. One of the aims of this study is to try and investigate the relationship between resilience and vulnerability in dyslexic pupils. It is reasonable to assume that in a western society where academic success is highly valued, dyslexia may be considered a risk factor. When a risk factor exists, then it is essential for the individuals to adopt or develop stress buffering facilitating factors. The questions are thus, are there resilient dyslexic pupils? Can dyslexic pupils overcome their educational disadvantage, or does their difficulty surface in a different form, thus misleading those who claim successful coping with dyslexia type difficulties? These questions are considered in the present study of educationally resilient dyslexic pupils.

Thus, some issues which may throw further light on the process of resilience and which are worth researching would be:

- Is there a single continuum of resilience to vulnerability?
- Do the factors which lead to failure in some children 'mirror' those which lead to success?
- Is it the case that a different set of factors cause failure, contrasted with those that lead to success?

Chapter summary

Research supports the view that adverse life circumstances, such as poverty, divorce or institutionalisation, lead to the development of children 'at risk' of failure or ill health (Garmezy, 1983). There is also evidence that despite these misfortunes, not all children show the negative developmental consequences typically associated with severe and prolonged social adversity. Indeed, some of these children develop as well-adjusted and coping adults, and are even successful in some areas. These children are referred to in the literature as "resilient" children (Garmezy, 1983). Thus, resilient children are those individuals who appear to be coping well when

one considers the environmental, personal and cognitive stressors and deprivations to which they are or have been exposed. The concept of resilience has been developed by theorists mainly in the field of psychopathology or health. These studies traditionally emphasized pathogenic variables in the person and the environment that predict psychiatric problems (Anthony, 1987) or ill health (Kobasa, 1982). In relation to education, studies have mainly concentrated on the deleterious effects of adverse environments, such as poverty, racism and lack of opportunity on the school achievement of disadvantaged children. Issues such as motivation, self-esteem and socio-economic circumstances were examined in this relation, and were found to increase the risk of educational failure (Pilling, 1990). The concept of “educational resilience” (Joseph, 1995) was introduced to refer to those children who “despite being at risk of educational failure due to adverse socio-economic circumstances, achieve educational success.” (p.110).

Researchers (Garmezy, 1985; Fonagy et al., 1994; Kobasa, 1982) presented three broad categories of facilitators, and these are; facilitators present in the individual or personality (such as self-esteem, locus of control, social competence, commitment, challenge); facilitators present in the family milieu (such as early attachment, competent parenting, a good relationship with a parent); and facilitators present in the immediate social environment (such as a significant other, active involvement with religion). It is suggested that there is no single factor or a multiple of factors that can explain the complex process of resilience. The social, familial and individual factors transact to detract or to promote resilience, and educational resilience is no exception in this process.

Chapter III

Literature review on dyslexia

The concept of dyslexia (SpLD)

*I come to school.
I see all the other friends.
Who can rite and read.
But me, I'm all on my own
Not good at riteing.
Not good at reading.
I site on my bed,
I cry I cry and I cry.
But I boh't see why.
It's so hared for me.
Can't you see?*

(Jodie Cosgrave, age 11. Chievers and Andrew, 1996)

Having introduced the concepts of resilience, risk factors and facilitating factors, it is now appropriate to consider the specific issue of dyslexia. This is important in order to understand the type of problems which dyslexic children face, the effect of such problems on the children's intellectual, academic, social and behavioural development, and to understand why dyslexia may be considered a risk factor, or why dyslexic children may be considered 'children at risk'.

Putting forward a definition for any phenomena can serve different purposes which in part include noting the existence of the phenomena, the search for a cause, and an attempt to determine the conditions in which it occurs (Robinson, 1950). Masland (1990, p.32) states that:

"Dyslexia exists - probably not as a single specific entity, but as a group of disabilities whose nature varies with the severity and specific location of the abnormalities, the organisational pattern of the brain, and the individual's developmental experiences."

In relation to dyslexia, agreement over definition would help, in addition to accepting its existence, a guide to diagnosis, stating its place in the context of national educational policy; and finding a legal description that will automatically give entitlement to special help or provision (Miles, 1995).

Different descriptions of dyslexia exist without the claim to be **the** formula. The Orton Dyslexia Society Research Committee produced a definition of dyslexia, as follows:

“Dyslexia is one of several distinct learning disabilities. It is a specific language-based disorder of constitutional origin characterised by difficulties in single word decoding, usually reflecting insufficient phonological processing abilities. These difficulties in single word decoding are often unexpected in relation to age and other cognitive and academic abilities; they are not the result of generalised developmental disability or sensory impairment. Dyslexia is manifested by variable difficulty with different forms of language, often including, in addition to problems reading, a conspicuous problem with acquiring proficiency in writing and spelling.” (ODS, 1994)

The Committee goes on to point out that “no single definition can satisfy all needs”.

The British Dyslexia Association describes dyslexia as ‘a specific learning difficulty’ including some indications in speech, the particular aspect of learning to read that is most affected (i.e. decoding) and the importance of spelling in developing it. It includes also problems in organising written work and of meeting the general requirements of being systematic, which would particularly affect progress in secondary school. Their definition of dyslexia was as follows:

“a specific difficulty in learning, constitutional in origin, in one or more of reading, writing and spelling and written language, which may be accompanied by difficulty in number work. It is particularly related to mastering and using written language (alphabetic, numerical and music notation) although often affecting oral language to some degree.” (British Dyslexia Association, 1989).

The Dyslexia Institute currently defines dyslexia as:

“a specific learning difficulty that hinders the learning of literacy skills. This problem with managing verbal codes in memory is neurologically based and tends to run in families. Other symbolic systems, such as mathematics and musical notation, can also be affected. Dyslexia can occur at any level of intellectual ability. It can accompany, but is not a result of, lack of motivation, emotional disturbance, sensory impairment or meagre opportunities. The effects of dyslexia can be alleviated by skilled specialist teaching and committed learning. Moreover many dyslexic people have visual and spatial abilities which enable them to be successful in a wide range of careers.” (Turner, 1997 p.11).

It is apparent that these definitions occupy common grounds such as: family history of dyslexia; neurological origin; impeded learning of literacy and numeracy skills; independence from intellectual ability level; can be accompanied by socio-emotive difficulties (but is not the result of), and can be alleviated by specialist help. Despite the common ground the definitions occupy, much remains to be explained as to the exact processes of memory, learning, transfer and generalisation of learning in dyslexia. Also, there is less consensus on the criteria for identification of dyslexia.

In the present study the researcher adopts the Ability-Achievement Discrepancy definition (Shaywitz et al., 1992) without claiming that it is **the** definition, and with the awareness that there is diversity of interpretation of the term ‘dyslexia’. Shaywitz and her colleagues (Shaywitz et al. 1992, p.146) note that in their study:

“...specific reading disability...is expressed as a discrepancy between the level of reading achievement predicted on the basis of intelligence (ability) and the actual level of reading achievement.”

They justify this by saying that the phrase is used by the US Office of Education with that connotation and that ‘specific reading retardation’ is used in the same way by Rutter and Yule (1975). To this interpretation of dyslexia, Galaburda (1992, p.279) replied by stating:

“The exclusive use of the discrepancy measure by Shaywitz...serves both to include ordinary intelligent children who read poorly for a variety of non-biologic reasons (e.g. social opportunity, motivation and the like) and to exclude children who, albeit truly dyslexic in the modern sense of the word, have been able to improve their reading ability by the time the research begins.”

Stanovich and Stanovich (1997) claimed that the Ability-Achievement discrepancy definition of dyslexia does not tell us anything about the processing mechanisms underlying reading difficulties. This notion is not at issue in this study as the researcher's aim in this study is not to investigate the underlying processes of reading skills but the socio-emotive factors associated with dyslexia. However, it is of interest to note that as part of the processes of diagnosing dyslexic pupils, their information processing characteristics at the level of literacy skills and their phonological coding processes were also assessed. In addition, Stanovich (1991) opposes the use of intelligence tests in diagnosing dyslexia on the basis that intelligence tests are

*"...gross measures of current cognitive functioning (p.127)...
and that ..most... educational psychologists long ago gave up the belief that
IQ test scores measured potential in any valid sense..." (p.126).*

Though he is opposing this discrepancy definition, he is presenting another discrepancy definition that of reading and listening comprehension (which in itself causes different problems). But, as to intelligence testing Snyderman and Rothman (1988) claim that

"...IQ is a significant predictor of academic success....intelligence can be measured..(and)..whilst experts believe that IQ tests are somewhat biased, they do not believe that the bias is serious enough to discredit such tests, and they believe that measure of IQ is an important determinant of success in American society." (p.51)

In addition, Brand (1996) adds that IQ tests have been intensively checked out for possible bias, more than any other variable in psychology has been checked. A well-formulated case against Stanovich's criticism is presented by Turner (1997) who notes that

"Implicit here is a research agenda. However, the researcher's agenda is not the clinician's. Both are interested in careful definition of dyslexia. The clinician ultimately depends upon research elucidation of the problem, as the researcher depends upon the clinician for knowing what matters....The researcher serves abstract truth. The clinician hopes to resolve a child's problems in the light of research. The researcher aims to clear up uncertainties. The clinician hopes to tolerate them. The researcher lives with a small cluster of issues and focuses on these with absolute cunning. On the clinician's shores are washed up ever-varying examples of familiar problems. There are, for the researcher, improbable theories that no amount of data will finally clinch. For the clinician there are home truths no

absence of data can undermine. For the researcher the boundaries of dyslexia must be drawn before the centre can be defined. For the clinician every dyslexic individual's position can be mapped in relation to the centre of a circle – the classical dyslexic – whose outer boundaries dissolve through shades of grey to indistinctness” (p.30).

As a clinician, this is why in diagnosing dyslexia the researcher seeks, in addition to the Ability-Achievement Discrepancy, evidence from additional diagnostic testing such as phonological processing and speed of information processing (together with developmental, familial and social background information).

The word ‘dyslexia’ comes from the Greek language and its literal translation is ‘dys’ - difficulty, ‘lexis’ - words. Hence difficulty with words. The terms dyslexia and specific learning difficulty are often used synonymously. The word ‘specific’ in this second expression suggests a particular learning problem to be remedied, as opposed to a general difficulty which would indicate slow learning across the whole spectrum. Since there is so little agreement over criteria for identification, it is not surprising that there is no reliable figure for prevalence. The British Dyslexia Association estimates, based on government-sponsored studies, that 10% of children have some degree of dyslexia, while about 4% will be affected severely. Most will need some special teaching at some time during their school life, but the most severely affected may need such help throughout their education. Recent findings suggest that dyslexia affects males and females in equal numbers. A distinguishing characteristic of dyslexia is its persistence throughout life. Children do not grow ‘out of it’. Appropriate remedial help and the use of coping strategies may moderate its effects significantly, thus, there is a need for defining the individual needs.

This section has given an overview of the problems associated with the definition of dyslexia. A definition that is adopted in this research, and which forms the basis for the study is the ‘Ability-Achievement Discrepancy’ definition, without claiming that this is the ‘only’ or the ‘best’ acceptable definition. However, it does serve as an operational definition which made the present study researchable. Reynolds (1990) has cautioned that a measure of the Ability-Achievement discrepancy only

establishes that the primary features of specific learning difficulties exist. He suggested that there is a need for the examiner to ascertain that the children's difficulties in literacy skills are not the result of factors related to their medical or developmental history, neither to educational or economic disadvantages. Factors related to emotional disturbance should also be eliminated. In identifying dyslexia the researcher aimed to eliminate the existence of these interfering variables by gathering information about the children's early development, their medical history and their educational and social background. The required information was gathered through the use of questionnaires completed by the parents of the children and their school staff. In addition, clinical judgement at the assessment session was also an important channel for gathering information on the children's emotional stability.

The Ability-Achievement discrepancy description of dyslexia used in this study considers literacy under-achievement on its own as the major criterion for the data analysis on the low and high achieving dyslexic pupils. However, there are additional diagnostic criteria which were used when identifying the study's dyslexic sample. These included the anomaly in cognitive processing such as immediate verbal memory, phonological processing and information processing speed. Thus, neither the literacy under-achievement, nor the anomaly in cognitive processing could be used reliably as a sole criterion for the diagnosis of dyslexia. Consequently, the degree of literacy learning difficulty (discrepancy scores) does not necessarily describe a severity continuum of dyslexia, i.e. dyslexic pupils with higher discrepancy scores do not necessarily experience more severe dyslexia than those obtaining lower discrepancy scores. Conversely, those with lower discrepancy scores are not necessarily experiencing a milder form of dyslexia or are 'less dyslexic', as a multitude of factors, such as compensatory strategies and effort, could intervene in this process.

In sum, as Miles (1995) has suggested "...different descriptions of dyslexia may be valid on different occasions... and one should abandon the attempt to produce *the* authoritative definition."

Symptoms of dyslexia (SpLD) and their effects on the children

*"I can see his face ready to blow
he shouts so the whole class will know
Sir, Sir I'm stuck, I need more time
I told you what to do, don't step out of line*

*I find it hard and embarrassing with him yelling
About my reading writing and spelling
Hurry up get on with it, I'm not marking this mess
I say, I need more time I'm doing my best*

*He tells me little kids can do better than me
I've seen better from my daughter, she's only three
Where's your full stops and capital letters
Now go and sit down until you do better*

*It's hard to do my work I find
I never rest, it's always on my mind
Then I get frustrated, rude and angry
Because he doesn't understand me."*

(A poem written by a dyslexic pupil, Mark Chievers, 12, Chievers and Andrew, 1996)

In this section the literature is reviewed regarding the emotional, social and behavioural aspects of children experiencing dyslexia. In order to understand the effects of dyslexia on the individual it would be helpful to briefly outline some of the observed symptoms of dyslexia as cited in the literature. Pupils with specific learning difficulties, such as dyslexia may experience extreme problems in everyday classroom activities, such as multi-tasking (listening to instructions, carrying out science practical work, and recording results. Webster et. al., 1996). They show an ability to learn readily in some areas of the curriculum, but have problems acquiring accuracy or fluency in reading and/or spelling. Similarly, specific difficulties can also arise in recognising and/or manipulating numbers. Other difficulties concerning aspects of perception, sequencing or spatial organisation may be found, but these are usually discovered on testing rather than being obvious from the individual's behaviour. Clumsiness may be noticed or have been present as a young child. The youngster may have a history of delayed speech or language development and poor auditory memory. Concentration span may be

poor and the pupils may have low self-esteem. These symptoms are categorised under different concepts and include difficulties in information processing, difficulties related to phonological awareness, weakness in organising information, short and/or long term memory difficulties, problems in retrieving information and motor difficulties.

Observed symptoms associated with dyslexia

*Some people think I am stupid.
Others think I don't care.
But to all of us who have dyslexia
Life seems totally unfair.*

*It doesn't matter how much I try
My hair is a mess, my shoes untied
My coat is undone, I spilt the tea
But at the end of the day I am still
Only little old me.*

*I have to work much harder
To learn to read and write
But if you have this problem
Don't give up without a fight.*

(Martyn Charity, 11, Chievers and Andrew, 1996)

In order to understand the effects of dyslexia on the individuals' ability to function effectively in their social environment, it would be helpful to review several of the observed symptoms of dyslexia. They generally represent processes such as the individual's ability to process information (input), the ability to organise and make sense of the information, the ability to store information and the ability to retrieve information from long term memory (output). It is important to view these deficits not only as being related mainly to school work and acquiring literacy skills, but also as a disability affecting different aspects of life. Dyslexic individuals are described as experiencing difficulty in one or several of these processes.

Information processing

Reduced speed of information processing appears to be a recurring symptom of dyslexia (Denckla and Rudel, 1976). Nicolson and Fawcett (1994) have demonstrated reduced speed of lexical access, i.e. deciding whether a given stimulus was a real word or a nonsense word. Information processing difficulties are observed in the visual and/or auditory channels for receiving information. There is much evidence for speech processing problems in dyslexic individuals (Frith et al., 1995). Some dyslexic children show slow speed of processing auditory information which may lead to difficulties in correctly hearing or in discriminating sounds. This means that it would take them relatively longer time to understand what they have heard, or they may find it difficult to keep up with what is being said and miss a piece of information. This has a profound effect on understanding and following instructions in school or at home, as well as on the communication with others. As a result of this deficit, they seem not to be paying attention or seem to be misunderstanding what is being said, and are labelled 'lazy' or 'day-dreamers'. Many dyslexic children appear to show more marked deficits under timed tests than under more relaxed conditions (e.g. Ellis and Miles, 1978), reflecting their relatively slower speed of information processing. Studies about speed of information processing have been criticised because it is not clear whether the deficit represents information processing problems per se or whether it represents other linguistic or memory abnormalities (Bale, 1974).

Information organisation

Deficits in organising information effectively may be related to visual or auditory sequencing difficulties. There are many examples of dyslexic pupils or poor readers that show problems of sequencing ability and sequential processing (Vernon, 1979). When children with sequencing problems talk, they might start in the middle and go to the beginning of the thought, then shift to the end. Their ideas do not flow in the correct order. Younger children with sequencing problems may not know the correct order of putting on their clothes, they might put on their shirts and then wonder what to do with their undershirts. They may have trouble organising their

books, school bags or bedrooms. They may also have problems planning their time: they arrive late to classes or miss the bus. These behaviours may cause anger and frustration to their parents, teachers and peers, as well as to the children themselves.

Memory

Many researchers have drawn attention to the fact that although dyslexic children may have problems with processing visual or auditory information, and organising information, a more serious deficit occurs when the learned material has to be stored or recalled. In her recent article, Gathercole (1998) indicated that there are many memory systems that can function independently of one another. These included short-term memory, which is best described by the working memory model of Baddeley (1986); and two long term memory systems – autobiographical memory and episodic memory . Both short and long-term memory are considered to be important functions in learning, and are vital elements in specific learning difficulties (Miles, 1983). Baddeley (1990) and others, have argued that short term memory is more appropriately labelled working memory to emphasise the fact that it is used as a work space while operating a skill, or thinking about something else. Working memory has been regarded as a process which has several major functions; i.e. processing information in and out, and storage of information. In addition to short and long term memory distinction, there is a distinction between visual and auditory memory.

Short term memory difficulties have been associated with specific language impairments, and with attention and concentration difficulties. Various studies have suggested that dyslexic pupils are distractible, unable to pay attention, or prone to focus on irrelevant aspects of the situation (Rourke, 1988). Rourke further noted that the attentional deficit is more characteristic of younger dyslexic children, and decreases when they get older. However, attention remains an inferred construct, it has not been made observable, and therefore it is possible that at later stages it takes a different form, rather than decreases. Children with short term memory difficulties may have problems remembering several verbal instructions simultaneously, in remembering what they have read or what they intended to say or do. However,

despite the fact that there are obvious correlations between short-term memory impairments and various cognitive impairments, studies so far have not demonstrated causality. For example, a correlation between reading and memory can be interpreted as memory influencing reading, reading influencing memory, or both being influenced by a third factor. This notion is summed by Gathercole and Baddeley (1990) who concluded that

“the nature of the contribution of phonological memory to the acquisition of reading skills appears to be complex and highly dependent on level of reading expertise.” (p.358)

Such is also the complexity of the association between memory and other cognitive and emotional factors.

Retrieval of information

Individuals with problems in retrieving information may have difficulty in finding the right word when needed, or they may be slower in retrieving a required word. Denckla and Rudel (1976) showed that dyslexic children were slower to name colours, pictures, digits, and letters than slow learners matched for reading age. This deficit was evident not only with visual stimuli but also with auditory presentations and with the naming of touched objects. When children struggle to express their thoughts with the right words, parents or teachers get frustrated with the time needed. Dyslexic children exhibit higher performance anxiety under timed exams conditions partly because they are aware of their slowness in retrieving and organising information that they have learned for the exam. They may be slower in writing their responses and may have difficulty in retrieving knowledge about punctuation and grammar which they have learned earlier .

Impaired motor ability

In addition to difficulties in memory, in phonological awareness, in retrieving and organising information, and in processing information, impairment in motor ability or co-ordination has frequently been linked with specific learning difficulties, particularly with handwriting and spelling difficulties (Jorm et al., 1986). Brenner et

al. (1967) reported clumsiness in movement and speed, and poor control of fine motor abilities in a sample of children of average intelligence who were poor at spelling, arithmetic and writing. Fine motor skills are important aspects in the learning process, they serve as major channels for registering information leading to long term storage recall. It can be argued that the apparent success of multi-sensory teaching has been due, in part, to a reliance on motoric memory. In addition, there is association between clumsy children and speech disordered children, as speech is a motoric function (Snowling, 1987) but simple motoric problems are not regarded as the primary problem with regard to literacy (Bishop and Robson, 1989).

Augur (1985) found that, among other problems, dyslexic children demonstrated difficulties with motor skills such as clumsiness and difficulties in hopping and skipping, clapping in rhyming and throwing and catching a ball. Furthermore, Nicholson and Fawcett (1995) have demonstrated that dyslexic children showed motor skills deficits particularly in bead threading and on some balance task such as standing on both feet, standing on one foot and doing both tasks while blindfolded.

So far, some aspects associated with learning processes have been listed. Dyslexic children were found to have deficits in one or more of these learning processes. However, it is important to remember that deficits in these aspects may also underlie, directly or indirectly, some of the social emotional problems observed in dyslexic children. Knowledge that dyslexic children have problems processing visual or auditory information, or are unable to hold more than a limited amount of information in their memory at any one time, may help in understanding what is to be expected of them and how they can be helped in the classroom and at home. The deficits experienced by dyslexic children may cause frustration to the children themselves as well as to parents, teachers and peers, and may lead to inability to communicate effectively with others.

Social and emotional aspects of dyslexia

For many years researchers have been trying to assess the effects of dyslexia on the individual. There is a consensus that dyslexia has a profound effect on the

individuals' educational experience and their ability to master literacy skills. However, it is difficult to assess the effects of dyslexia on the individual without considering its emotional and social effects, in addition to its effects on the individual's learning style. Klasen (1972) supports this idea and notes that

"..in all high developed civilisation, reading and writing ability has become the most important bit of communication from highly scientific literature to street and traffic signs, menus, directories, advertisement, application forms, etc, it invades daily life. It is readily understood then that the failing reader soon comes to feel inadequate, isolated, and therefore hostile". (p.95)

Research indicates that social skills deficits are common in students with specific learning difficulties and that these deficits have a negative effect on these pupils' relationships with adults and peers, as well as on their ability to function in the regular classroom environment (Pearl et al., 1986). Children with dyslexia are often described as exhibiting lack of judgement, deficiencies in social skills and poor self-concept (Lerner, 1989). Silver (1984) notes that one of the social problems children with specific learning difficulties have is that they do not read social cues and do not know how to fit well into social groups. It is also difficult for them to verbally express their feelings and thoughts.

Lerner (1971) outlined several observable characteristics related to a deficit in social perception of children with a specific learning difficulty: They were observed to be:

- a. performing poorly in independent activities expected of children of their age.
- b. poor in judging moods and attitudes of people.
- c. insensitive to the general atmosphere of a social situation.
- d. continually doing or saying the inappropriate thing.

The diagnosis of dyslexia in children is likely to cause a variety of stresses and concerns for the parents of these children. The attitude of the family toward the children with a specific learning difficulty affects the children's performance in school, their self-concept and motivation (McLaughlin, 1985). Parents tend to hold

rather negative perceptions of their learning disabled children's academic and social abilities (McLaughlin et al., 1987). Teachers also tend to perceive pupils with specific learning difficulties as less co-operative, less attentive, less socially acceptable and less desirable to have in class (Cullinan et al., 1981; Palmer et al., 1982). In addition, some studies show that children with specific learning difficulties experience rejection by their peers and are perceived as unpopular (Siperstein and Goding, 1983). However, there are also studies that suggest that some pupils with specific learning difficulties were selected by their peers as pupils they liked best (Siperstein and Goding, 1983). It is likely that academically underachieving pupils may try to develop other skills, such as social skills, to be accepted by their peers if they are unable to do so academically. Conversely, some academically high achieving pupils are 'rejected' by their peers, are perceived as socially incompetent, and named as 'boffens' or 'gigs'. Thus, both academically high achieving and low achieving pupils are at risk of being perceived as socially inadequate. It seems that those that are below or above the subjective 'normal range' of a certain context, are at risk of being perceived as incompetent.

Repeated school failure produces frustration leading towards rebellion, which also leads to an "alternative means of achievement" for many youngsters. Dunivant (1982) noted that the causes of delinquency are to be sought in the lack of attachment of young people through the institutions of society, including the school. He gave statistics to support the view that delinquents earn poor grades, or experience school failure at a much higher rate than their non-delinquent peer group. However, the exact cause of school failure is unknown, and may not be the result of a specific learning difficulty, but a consequence of other environmental or family related factors. Nevertheless, these findings may help in generalising the effects of lack of academic achievement to dyslexic children, who may try to compensate for their poor scholastic achievements by a trade-off behaviour, and try to 'achieve' in other areas, such as delinquency. Siedel and Vaughn (1991) found that pupils with specific learning difficulties who dropped out of school reported significantly stronger perceptions of social alienation from both their teachers and peers than did pupils with specific learning difficulties who completed school. The feelings of alienation in this case may be the consequence of dropping out of school

and not the cause for dropping out. But, feelings of commitment (Kobasa, 1982), as opposed to alienation, to school, peers or learning may help in reducing the stress associated with difficulties in learning. The question is, thus, whether pupils who completed school have developed commitment to school, and whether in addition they possessed other personality facilitating factors that helped them cope with the stressful situation.

Rutter et al. (1975) talk of the poor concentration shown by children with reading difficulties and the substantial overlap between reading problems and ‘anti-social disorder’. Restlessness, mischief-making and poor relationships with other children are said to be likely. In view of these findings, Forness and Kavale (1991) reviewed five hypotheses about the causal nature of social skills deficits in students with specific learning difficulties. These are:

- a. social skills deficits are caused by the same neurological dysfunction that cause the academic learning inefficiencies.
- b. social skills deficits are the consequences of academic failure.
- c. social skills deficits are the result of lack of environmental opportunities and reinforcement.
- d. social skills deficits are the result of dysfunctional family relationships caused by the stress the parents experience in coping with the child’s specific learning difficulties.
- e. social skills deficits may be the result of difficulties that often co-exist with specific learning difficulties such as hyperactivity and depression.

These hypotheses, however, are not supported by empirical studies and remain to be confirmed. It is unreasonable to assume that each of the above hypotheses act in isolation to cause social maladjustment. It is more likely that the combination of some, or all together bring about the social skills deficit, reflecting the complexity of analysing human behaviour.

In sum, the above review of the literature suggests that there is evidence of a range of social skills deficits associated with problems in learning, and these are common to children with specific learning difficulties. These children are vulnerable to

negative reactions from parents, teachers and peers, and may show feelings of shame of failure, feeling of inadequacy, low self-esteem, hopelessness and helplessness. There is also evidence that high achievers exhibit social incompetence, thus, it is unclear whether academic performance by itself leads to social skills deficit or if it interacts with other factors. Based on the above findings, one of the aims of the present study is to investigate the relationship between educational resilience and social skills in the study's dyslexic pupils.

In the following section, some of the adverse feelings and emotions commonly associated with children experiencing specific learning difficulties will be outlined.

Emotions commonly associated with specific learning difficulties

'Normal' development of children is associated with self-worth, positive self-esteem and effective social skills as a result of their awareness of the approval of those around them. Their feelings about their experiences in the world are positive, for they establish healthy identifications with significant others in their life. Conversely, the development of children with a specific learning difficulty does not follow a similar pattern (Rappaport, 1966). Their attempts at mastery of tasks lead to feelings of frustration, rather than feelings of achievement, leading to lowered self-esteem. As a result of their failure, their parents experience feelings of anxiety and frustration, which may result in rejection or overprotection. At school, underachieving children may be perceived as 'lazy' and 'not trying hard enough', and their failure may be viewed in terms of poor behaviour and attitude. Eisenberg (1966) notes that increased impatience and an attitude of blame on the part of the teacher intensifies the children's anxiety, frustration and confusion, and bring adverse consequences to the ego. Studies show that various emotional disorders are more common in reading disabled children than the norm. Ohlson (1978) cites studies which report significant correlation between emotional disturbances and reading retardation. Akins (1967) was interested in the emotional development of retarded readers and his study pointed out that the majority of children with severe reading problems also evidenced emotional instability. However, Connolly (1971) believes that few writers who dealt with this issue have attempted to validate their

opinion. Many studies have drawn attention to the increased incidence of anxiety and depression in certain children with specific learning difficulties. Silverman, Fite and Mosher (1959) found them to occur in about two-thirds of their emotionally maladjusted cases. The Bullock Report (1975) drew attention to evidence that boys with reading difficulties are more than twice as likely to show anxiety or lack of concentration, and three times as likely to experience irrational fears and anxieties. Aggression has also been found to occur in emotionally maladjusted individuals with reading difficulties by Douglas et al. (1968), although it has also been suggested by Upson (1968) that individuals with reading problems may in some cases actually suppress their aggressive impulses. Forness et al. (1988) note that there are speculations that both depression and the learning disability might be caused by a common neurological problem. He reports that there are studies using sophisticated brain scans which show that similar areas of the brain seem to be affected in children or adults with depression as those that are affected in children with learning disabilities. Manzo (1977) puts forward a more controversial view when he proposes that dyslexia could be a form of psychological defence known in psychiatric literature as Hysteria Conversion or Conversion Reaction Syndrome, whereby the dyslexic pupil's inability to read is an expression of underlying anxiety.

Harris (1970) notes several emotional reactions to learning problems which include:

- conscious refusal to learn
- overt hostility
- negative conditioning to learning
- displacement of hostility
- resistance to pressure
- clinging to dependency
- quick discouragement
- the attitude that success is dangerous
- extreme distractibility or restlessness
- absorption in a private world.

In sum, there is evidence of correlations between emotional problems and specific learning difficulties, but the causative direction is not clear. Whilst emotional disorders may be contributory factors in some cases of reading disability, there are also suggestions that emotional problems may arise because of feelings of frustration and anxiety associated with the inability to learn to read. Whatever the cause, it is important that the problem is addressed, and the association between dyslexia and, social and emotional deficits is further investigated. It is unrealistic to separate dyslexia from individuals' other personality variables, and assessment of the effects of dyslexia on the individual as a whole should be given a high priority. Not only will the gained knowledge add to our understanding of dyslexia, but it will enable us to treat better those afflicted individuals.

Self-esteem and dyslexia

Pupils with dyslexia are very often described as having low self-esteem or negative self-perception (Rosenthal, 1973). Such descriptions are not surprising as dyslexic pupils often experience academic and social failure and receive negative feedback at school as well as at home. 'Self-esteem' in this paper will refer to Coopersmith's (1967) definition,

"...the evaluation which the individual makes and customarily maintains with regard to himself; it expresses an attitude of approval or disapproval, and indicates the extent to which the individual believes himself to be capable, significant, successful, and worthy. In short, self-esteem is a personal judgement of worthiness that is expressed in the attitudes the individual holds toward himself" (p.5).

Coopersmith's (1967) definition of self-esteem given above focuses upon a relatively enduring estimate of a general, global self-esteem, rather than upon more specific or transitory aspects of evaluation. But theorists are divided over the question of whether self-esteem is best characterised as a global, overall self-evaluation, or as an aggregate of specific self-evaluative judgements across a variety of dimensions or domains (Harter, 1985). At the beginning of the century, both James (1982) and Cooley (1902) presented this issue as a dilemma but concluded that somehow both aspects of self-esteem need to be taken into consideration.

While James (1982) acknowledged that we make evaluative judgements about our specific successes and failures, he maintained that over and above these judgements,

“there is a certain average tone of self-feeling which each one of us carries about with him, and which is independent of the objective reasons we may have for satisfaction or discontent” (p.171).

The suggestion here is that one could possess a sense of a stable image of self that could not be upset by passing phases of praise or blame, and some global sense of self-worth exists. Recently, Covington (1992) suggested that

“while some individuals may need more pass-fail experiences before they come to accept a particular view of themselves, this is only a matter of degree. Given a sufficient number of unsuccessful experiences, almost everyone must eventually succumb to an acceptance of a self-view which is negative or inadequate. Similarly, for the successful encounters, given enough of them, one must eventually come to view oneself as positive or adequate” (p.203-4).

Empirical evidence has found self-esteem to correlate with emotional adjustment, social functioning, and mental health (Rosenberg, 1965; Coopersmith, 1967). Individuals high in self-esteem have been found to be more ambitious, confident and competitive, whereas individuals low in self-esteem have been found to be more likely to exhibit anxiety and neurotic behaviours, and to perform less effectively under stress and failure (Rosenberg, 1965). It is believed that children with positive self-esteem feel worthwhile and confident in their ability, and are emotionally and socially well-adjusted. Consequently, they are more likely to cope successfully with life's challenges, thus showing resilience in stressful circumstances. In the education context, the general view and the majority of studies suggest that self-esteem is highly correlated with academic achievement, and unsuccessful experiences in school are most likely to generate low self-esteem. Rosenthal (1973) carried out an experiment to measure the self-esteem of dyslexic boys and concluded that children with dyslexia show lower self-esteem than do 'normal' or asthmatic controls. Walsh (1956) pointed out that boys who scored highly on an intelligence test and underachieved academically had more negative feelings about themselves than did high achievers. Similar findings were found by Shaw, Edson and Bell (1960) who reported that bright underachieving high school

boys showed more negative self-concept than their controls, equally bright but achieving boys. Rosenberg (1965) noted that good grades contribute significantly in a positive sense to the pupil's self-esteem while poor grades greatly depressed self-esteem. Rubin, Maruyama and Kingsbury (1979) suggested that achievement does not have a causal influence on self-esteem, nor does self-esteem influence subsequent achievement at a later stage. Based on their longitudinal study, the researchers concluded that there is no evidence that intervention programmes designed to improve academic achievement by enhancing self-esteem are efficient or serve their goal. This study, however, was criticised for its definition of self-esteem and lack of a specific measure of academic performance. Their study also concentrated on 'prediction', i.e. self-esteem at age 12 and its subsequent effect on achievement at age 15, rather than measuring 'short term' correlation or causal effects, as most researchers tend to do.

There is also a suggestion that the effects of academic achievement or lack of achievement on self-esteem are culturally related. Thus, academic performance will have an affect on the individual's self-esteem only if it is perceived as significant in a given culture. For example, a number of studies have pointed out that some black and Hispanic students who on average academically achieved lower than white students, rated themselves higher than the whites in well-being and in self-perceived ability (Harter, 1985). The reasons for this were attributed to the cultural perception that well-being is associated more with peer acceptance, nurturance and co-operation (Harter, 1985) than with performing well in school. Also some black families judged their children's ability with reference to effectively coping with life situations and survival rather than academic achievement. Nevertheless, the general view in the education literature and the majority of studies in this field suggest that self-esteem is highly correlated with academic achievement, and unsuccessful experiences in school are most likely to generate low self-esteem. It is difficult, however, to establish the cause and effect in this correlation, as low self-esteem may lead to poor academic performance as poor academic performance may lead to low self-esteem. This is particularly true in western societies, where academic achievement is highly valued. Thus, it is more likely that dyslexic pupils who underachieve academically feel lower self-esteem in a western society than in other

societies where survival is a top priority. As a result, the negative capability of dyslexia in a western society is higher than in other non-academic societies.

Locus of control and dyslexia

Locus of control refers to how the individual perceives control factors in specific events in their lives. Locus of control suggests that the individual believes in personal ability to control the environment and takes responsibility for learning and performance, rather than believing that the external environment is determinative. This is similar to Dweck and Leggett's (1988) observation of individuals showing mastery oriented strategies where the individual generally seeks explanations for failure that may lead to improved performance. The process

"involves the seeking of challenging tasks and the generation of effective strategies in the face of obstacles"...it is an adaptive stance as it is characterised with "enjoyment of challenge and willingness to sustain engagement with difficult tasks" (Dweck and Leggett, 1988 p.257).

In the face of failure, these individuals do not attribute failure to inability, but rather they view the unsolved problem as a challenge, and search for effective strategies to solve the problem. They believe that their efforts would be fruitful and that they will overcome the obstacle and reach the solution, i.e. they have some control over the environment. Both control and challenge are factors associated with stress resistant factors (Kobasa, 1982). Challenged individuals value change rather than stability, and individuals with control can predict events and are not threatened by the unknown. Conversely, a 'helpless' response pattern is described as *"an avoidance of challenge and a deterioration of performance in the face of obstacles"* (Dweck and Leggett, 1988 p.256), resulting in the individual putting less effort into achievement. Individuals who attribute success or failure on a certain task to their own skills are said to have an internal locus of control. Individuals who believe that outcomes are based on luck, fate or behaviour of others are said to have an external locus of control.

The importance of locus of control in education lies in the effect that it has on pupils' attitudes toward school-related tasks. Those with internal locus of control are found to exhibit high levels of perseverance on difficult tasks, to delay

gratification, and to seek and retain information (Dweck, 1975). Conversely, children who possess an external locus of control generally feel that they have little impact on the outcome of tasks and that task difficulty, luck or fate control their success and failure. These children respond to difficult tasks with withdrawn behaviour, lowered task completion, and negative self-concept (Dweck and Repucci, 1973). These children are often described as exhibiting “learned helplessness”. Some studies have found traits of learned helplessness to be common in students with specific learning difficulties (Pearl et al., 1986). Several studies indicate that students with specific learning difficulties exhibit a significantly higher external locus of control than do their normally achieving peers (Rogers and Saklofske, 1985; Tarnowski and Nay, 1989). Other studies indicate that students with specific learning difficulties are less likely to interpret success as an indicator of ability and more likely to interpret failure as an indicator of a lack of ability (Palmer et al., 1982). There are also studies that fail to demonstrate such correlations (Cooley and Ayers, 1988). The mixed findings in studies examining the locus of control of students with specific learning difficulties make it difficult to draw firm conclusions regarding the issue. However, there are indications that positive results can be achieved through attribution retraining programmes (Bryan, 1976). It is difficult to judge the benefits of these attribution retraining programmes if studies have not yet confirmed the positive effects of internal or external locus of control as facilitating factors in stressful situations. In general, internal locus of control is considered to be an important factor in resilience (Luthar, 1991) and in educational success (Woodard, 1992), and it would be interesting to find out whether educationally resilient dyslexic pupils apply this in their academic success.

Personality aspects of dyslexia

Hales (1990) attempted to build a personality profile of dyslexic individuals by using objective personal measures and, in particular, the Sixteen Personality Factor Questionnaire with its variations for different ages of children. Three hundred subjects diagnosed as experiencing specific learning difficulties (74.6% male and 25.3% female) completed the procedure. Hales analysed the findings by age, gender and levels of intelligence. Findings suggested that children as young as 6-8 years

were already affected by their specific learning difficulty and felt less adequate than their peers. They were more tense and frustrated, and tended to feel few obligations to conform to the value-system of the adult world. The more intelligent children were more worried and troubled (more apprehension), and the less intelligent more placid and untroubled. Children with specific learning difficulties were found to exhibit more anxiety and insecurity. They also showed more difficulty in joining others, and preferred to work alone. They showed the tendency to prefer objects rather than people. The more the children experienced the consequences of specific learning difficulties, the less enthusiastic, optimistic and self-confident they became. He further reported that those who were less intelligent suffered more from the effects of dyslexia. He explained this by suggesting that the more intelligent children are more effective in 'diverting' some of their abilities into coping strategies. Generally, dyslexic pupils are taught coping strategies only in relation to their cognitive inefficiencies, but no study, to the researcher's knowledge, has investigated the coping strategies used by dyslexic pupils to deal with their socio-emotive difficulties which emerge as a consequence of their academic problems. It would be interesting, thus, to contemplate on whether or what effective coping strategies are used by educationally resilient pupils, and whether they have indeed diverted some of their resources in their efforts to master their difficulties. The more intelligent children, it was suggested, are less anxious because they often receive more sympathetic feedback from their social surrounding because of their higher abilities. Conversely, those with less potential are regarded as failing because of their low intelligence, and their problems arising from dyslexia were ignored. He concludes that this is an easy stance to adopt, as for the uninformed individual it is easier to explain the children's failure by saying that - "they are not very clever".

Dyslexia as a risk factor

Dyslexic pupils are perceived as being at risk of failure not only academically but also socially and emotionally. The difficulties in learning experienced by dyslexic pupils may also lead to social and behavioural difficulties in class, and/or at home. The frustration of prolonged failure on a range of curriculum subjects, resulting in feelings of insecurity and lack of confidence can have profound effects upon social

status, friendship patterns in class, and acceptance and adjustment in the playground. Aggressive and anti-social behaviour may result from these tensions. Stress and insecurity can lead to an accentuation of information processing difficulties. When dealing with problems, the dyslexic pupil may adopt strategies of avoidance and self-blaming (Webster et al., 1996). Thus, dyslexia in this study is perceived as a 'risk factor', and a specific intervention and prevention programme needs to be made for the individual who is at risk of failure. The intervention and prevention programmes should adopt the stance that there is a need for different styles of learning for individuals with different cognitive profiles.

So far the symptomatology of dyslexia and the effects of such symptoms upon children in terms of the children's emotional, social and behavioural development were examined. It is important therefore, that the effects of these symptoms on the children's overall development are addressed and catered for appropriately. There is a need for a recognition of the children's problems within the school environment as well as at home, and out of school social life. To protect the children's needs to benefit from the school environment, the legislation concerning the education of special needs children was introduced and is outlined in the Code of Practice for Special Educational Needs (DFEE, 1994).

The individual needs of the dyslexic pupil

The Special Educational Needs (SEN) Code of Practice (DFEE, 1994) outlines the special needs and special arrangement to be made in schools and in the immediate social environment, for the pupils who show greater difficulty in learning, given their competent intellectual ability, than the majority of children of their age, i.e. the dyslexic pupils. Psychology and education nowadays take the view that reading and writing are learned skills, but the dyslexic pupils do not benefit from conventional methods of teaching in the classroom. Thus, there is a need to address this problem in a practical way and ask 'if these children do not learn the way we teach, can we teach them the way they learn, and then extend and develop their competences in learning?' (Chasty, 1990).

In addition to the educational needs, Webster et al. (1996) note that the

“emphasis on individual needs in context, embraces the whole spectrum of ability, and includes aspects of personality, social and psychological functioning” (p.9).

The need for intervention in the learning process of dyslexic children is recognised by the educational authorities, and a programme for gradual intervention is detailed in the SEN Code of Practice. The 1981 Education Act made no reference to dyslexia, specific learning difficulties or indeed to any other disabling condition, but it replaced all diagnostic labels with the all-inclusive term “children with special educational needs”. Therefore, it is of significance that the 1994 Code of Practice re-introduces the concept “specific learning difficulties (for example Dyslexia)” among eight other disabilities.

Chapter summary

In summary, this chapter has reviewed the emotional, social and behavioural characteristics of children with specific learning difficulties. It emphasises that the children’s feelings must be taken into consideration when analysing their learning difficulties, for the emotional state of the children has an impact on the learning process, and vice versa. Review of the literature suggests that children with specific learning difficulties exhibit a wide range of adverse social and behavioural characteristics, but that these characteristics are not necessarily exclusive to children experiencing specific learning difficulties, and they may be observed in children with other difficulties such as mental retardation. Studies indicate that children with specific learning difficulties generally show lower self-esteem than that of well-achieving peers, they generally possess an external locus of control for success and an internal locus of control for failure, and they exhibit an array of social skills deficits that interfere with their everyday functioning. The parents’, teachers’ and peers’ attitudes to children with specific learning difficulties are generally negative and affect the children’s performance in school, their self-concept and their social skills.

In the light of the evidence that children with specific learning difficulties experience behavioural, emotional and social deficits, it is important to identify those children that are likely to experience such problems and to develop intervention programmes to deal with these problems. Developing efficient communication between the children and the others involved with them such as parents, teachers and peers is an important process towards the effective adjustment of these children in their environment. Remediation must find a way to reverse the cycle of failure and to experience success, build feelings of self-worth and increase confidence. In addition to academic support, their emotional and behavioural difficulties should be catered for if we are to help the children adapt effectively to their social environment. It is important that social and emotional problems of children with specific learning difficulties are addressed in the early stages as there is evidence that these difficulties may persist into adulthood (McLoghlin et al., 1994; Gilroy and Miles, 1996) affecting their performance at work, but this issue is not dealt with in this study. It is important also to note that it is not only the specific cognitive inefficiencies that make dyslexia a serious problem, but it is also and mainly the adverse reactions and feedback these children receive from their social surroundings because of their specific learning difficulties.

To date, reviews of studies on dyslexia and educational achievement suggest that the concept of resilience has not been applied to dyslexic children. The observable or measured difficulties that dyslexic children face are mainly the levels of their academic achievement, and this is what is generally addressed. Pupils who are diagnosed as experiencing dyslexia receive specialist teaching to improve their literacy skills. However, there is evidence that dyslexic pupils are not only at risk of educational failure, but also of socio-emotional problems as a result of their academic difficulties.

Their socio-emotional difficulties are generally ignored, unless they present a problem to their social surrounding. Thus, dyslexic children are children 'at risk'. However, there is evidence that some dyslexic individuals have managed to cope with their learning difficulties, achieve educational resilience and present as successfully coping adults. It is assumed that various socio-emotive factors may

have contributed to their success, but little is known about these factors which rendered them resilient. Hence the importance of the present study which aims to identify those factors that would help in developing resilience in dyslexic children. In order to cope with the debilitating academic, and consequent emotional and social inefficiencies, dyslexic children need to develop the facilitating factors that render them resilient.

The diagnosis of dyslexia in children is also likely to cause a variety of stresses and concerns for the parents of these children. One of the big difficulties parents have is to accept the fact that they have significant feelings of loss and disappointment with regard to their children with specific learning difficulties. This feeling of loss can be accompanied first with feelings of denial and then followed by feelings of anger. They may feel that their dreams for their children have been shattered. Thus, the attitude of the family toward the children with a specific learning difficulty affects the children's performance in school, their self-concept and motivation (McLaughlin, 1985). Teachers also tend to perceive pupils with specific learning difficulties as less co-operative, less attentive, less socially acceptable and less desirable to have in class (Cullinan et al., 1981; Palmer et al., 1982). In addition, some studies show that children with specific learning difficulties experience rejection by their peers and are perceived as unpopular (Siperstein and Goding, 1983). However, despite the risk factor of dyslexia, some dyslexic individuals managed to cope effectively with their difficulties and achieve relative academic and/or social success. It is the purpose of this study to explore how this happens and to identify the factors that contribute to their resilience.

A definition of dyslexia that is adopted in this research, and forms the basis for the study is the "Ability-Achievement" discrepancy definition, i.e. how significantly behind mental age or IQ, children's academic achievement is, without claiming that this is the 'only' or the 'best' acceptable definition. There is controversy in the literature about this definition (Stanovich, 1991, see Chapter III). However, it does serve as an operational definition which made the present study researchable.

Research suggests that a multitude of factors, such as personal, biological, social and environmental, are instrumental in influencing the development of ‘facilitating’ factors or resilience in individuals coping with adverse life circumstances (Garnezy, 1983). These factors transact to detract or to promote competent adaptation in the individual.

To date, review of studies on dyslexia and educational achievement suggest that the concept of resilience has not been applied to dyslexic children, though there is a good reason for doing so. There is evidence that some dyslexic individuals have managed to cope with their learning difficulties and achieve educational resilience. It is assumed that various socio-emotive factors may have contributed to their success, but little is known about these factors. The perception of dyslexia as a risk factor affecting not only educational success but also competent socio-emotive development is reviewed in Chapter III.

The present study helps to illuminate those socio-emotive factors which are found to be associated with academically resilient dyslexic young male pupils. It is a unique study in the sense that resilience is applied to a specific risk factor in education, i.e. dyslexia.

The next chapter will outline the research design including sampling and description of the various tests and questionnaires used to collect the data.

Chapter IV

Research design

This chapter aims to describe the research framework within which the study is conducted and how educational resilience of dyslexic children is investigated. In addition, an overview of the reasons for using certain methodological procedures in collecting and analysing the data is presented.

The main hypothesis in this study is that educationally resilient dyslexic pupils possess socio-emotive profiles which are different from their less achieving peers which help them while coping with stressful circumstances. Factors which are found to correlate with resilience in the literature are taken into consideration in this study and these include locus of control, self-esteem, sociability, impulsivity, frustration tolerance and other personal, familial and social variables.

In order to understand why specific methodological procedures were chosen, the main objectives which guided the present study will be reviewed. As noted in Chapter I, the researcher's main objectives are to:

- Identify or illuminate a range of personal/cognitive/ social factors contributing to educational resilience among dyslexic pupils.
- Determine whether those factors that lead to failure in some dyslexic pupils 'mirror' those which lead to success, i.e. determine whether a different set of factors contribute to resilience, contrasted with those factors that contribute to non-resilience.
- Explore the relationship between vulnerability on the one hand and resilience on the other hand in a population of dyslexic children.

The following research design was planned in order to enable the researcher to collect the data required to test the main research objectives.

Thus, the plan of the study was:

1. To identify children experiencing specific learning difficulties associated with dyslexia.
2. To gather socio-emotional information from the children using the Child Questionnaire and the B/G Steem Questionnaire (see appendix).
3. To gather information from the children's school and their parents on factors associated with resilience, using the Family and School questionnaires (see appendix).

The data obtained on the children's intellectual ability, levels of attainment in literacy skills, self-esteem, locus of control and various individual, familial and social factors related to resilience are analysed quantitatively to show differences and similarities between and among the population sample.

Methodological issues

One of the most long-standing debates in the social sciences concerns the relative merits of quantitative and qualitative approaches and methods. Bryman (1988) reports that the choice between qualitative and quantitative methods is primarily a practical matter of deciding which approach is most suited to the research question or problem at hand. Some problems are best addressed by experiments and closed questionnaires, and involve the use of numerical data. Conversely, other research questions will require the gathering and analysis of unstructured, non-numerical materials. The qualitative method allows the researcher to explore, and be sensitive to, the multiple interpretations and meanings which may be placed upon thought and behaviour when viewed in context and in their full complexity (Bogdan and Biklen, 1992). Quantitative methods are useful for researchers who seek statistical significance or statistical correlations by aiming to work with a relatively larger number of subjects (Blease and Bryman, 1986), while qualitative researchers work with small samples with the aim to study them in-depth within a specific context.

Quantitative methods allow the predictions, establishing of facts, statistical descriptions and repeatability of the study, which qualitative research lacks. Banister et al. (1995) define qualitative research as

"the interpretative study of a specified issue or problem in which the researcher is central to the sense that is made" (p.2)

The use of quantitative methods and a qualitative investigation for some parts is thought to be appropriate for this study, because the project aims to measure the statistical relationships between variables and to capture the subjective meaning of the participants' experience. It is important to obtain the information from the children and their social surroundings; in this study the family and the school, as they perceive it subjectively. The observed behaviour of individuals may not necessarily reflect their feelings, thus, the importance of obtaining their subjective experiences.

In the present study the researcher aims to adopt a grounded theory approach (Glaser and Strauss, 1967) where the statement tested is whether there is a single resilience-vulnerability continuum, i.e. a continuum where one end represents resilience and the other end represents vulnerability, or a set of different factors influencing resilience and non-resilience.

Triangulation

Triangulation is essentially the use of different vantage points on the same phenomenon (Banister et al., 1995). It allows illumination from multiple standpoints, reflecting a commitment to thoroughness, flexibility and differences of experience. It makes use of combinations of methods, investigators, perspectives etc., thus facilitating richer and potentially more valid interpretations. Exploration from a variety of sources using an appropriate combination of methods increases the researcher's confidence that it is not some peculiarity of source or method that has produced the findings. Different types of triangulation may be applied and these include data triangulation, investigator triangulation, method triangulation, and theoretical triangulation (Banister et al., 1995). Data triangulation involves collecting information from different participants involved in the chosen setting,

from different stages in the activity of the setting and if appropriate, from different sites of the setting.

This study will adopt the data triangulation method, drawing on accounts from people differently positioned within the context. They will include *the pupils, their parents and their school staff*. The researcher is aware that the different accounts are unlikely to fit neatly together, but they do allow for considerable extension and depth of description of the studied issue.

The research process

Gaining access

The researcher is a Chartered Educational Psychologist working independently with schools and consulting to the Dyslexia Institute. A wide range of individuals are referred to the researcher or to the Dyslexia Institute for psycho-educational assessments. The subjects that were chosen to be included in the study were therefore easily accessed by the researcher. The parents of these children were either asked permission verbally on the day of the assessment or were later sent a letter to gain permission to administer further testing and to use the information from the children's file. Overall, all parents agreed to include their children in the study. Some were concerned about the nature of the Child's questionnaire and therefore a copy of the questionnaire was made available to them. There was only one case where the parents asked to complete the questionnaire with the child and it was not returned, therefore the child was not included in the study. In another case the child was upset when completing the Child questionnaire with his teacher, and therefore it was not completed and the child was not included in the study. No other difficulties were encountered in the sampling process. It must be noted that there were many cases in which the children enjoyed completing the questionnaires and voluntarily provided additional information.

Sampling

Sampling is an important process to obtain the required information in order to test the main hypotheses of the study, which is to determine whether those children who were identified as educationally resilient children showed a different cluster of socio-emotive factors than their less educationally resilient peers. The choice was made to limit the sample in terms of gender and age group in order to eliminate some intervening variables. There was no sample of non-dyslexic pupils to serve as a control group as testing the hypotheses did not require such sampling.

The researcher has access to a large and heterogeneous population of individuals experiencing difficulties in learning. The population includes children from the early age of five years attending private or local authority schools, students attending higher education and adults experiencing certain difficulties at work or in everyday life requirements. The population is a self-selected group in the sense that they are referred for assessment by their parents or institution (school or work), or they referred themselves due to some kind of experienced difficulty.

The researcher is aware of the limitation of studying a relatively small group, particularly a self-selected group who chose to seek out a psycho-educational assessment. However, the study is planned with a purpose of illustrating a subgroup of the specific learning difficulty population. The sample also represents a “criterion” sample in which all the subjects included in the study met the criterion of experiencing a specific learning difficulty, dyslexia.

Steps in choosing the sample:

1. Exposure to a wide range of sample in terms of age, gender and learning difficulties.
2. Identifying the nature and extent of the subject's learning difficulties.
3. Choosing the subjects which may be included in the sample.
4. Gaining permission from parents to use the data collected and to administer further tests.
5. Administering the B/G Steem Questionnaire (Maines and Robinson, 1988) and the Child Questionnaires.

In this study the researcher used a sample of 80 boys aged 7-11 years. The lower limit of the age range, i.e. age seven was important in terms of assessing the academic achievements of the children. It facilitates the elimination of some factors which may affect the measurement of academic achievement such as limited learning experience, or the effects of initial adjustment to school environment. The majority of the tests measuring literacy skills in this study (including the test used for measuring intellectual ability), have the lower limit of age six. Assessing children at the age of seven helps in part to alleviate the 'floor' or 'ceiling' effects of the test. In other words, the tests would not be too easy or too difficult and children may score towards the upper or lower limits of the tests. When 'floor' or 'ceiling' effects are present it can be inferred that the measurement device used fails to discriminate maximally between the performance of subjects (Cratty and Goldman, 1996).

The majority of the boys were referred for psycho-educational assessment by their parents following their own or the school's concern about the pupils' lack of educational achievement despite apparent ability to achieve higher academic standards. This suggests that there has been a kind of 'screening' that identified those pupils experiencing academic difficulty prior to assessment. It was also apparent that academic achievement is an important issue for the children's family, as parents were willing to pay for the assessment to be carried out in the private sector, as opposed to using the local authority's or the school's resources. The boys

were identified as dyslexic pupils by using the Ability-Achievement Discrepancy definition. (Note: The controversy in the literature over this definition is discussed under the dyslexia section in Chapter III). The WISC-III UK test (Wechsler, 1992) was administered to measure cognitive potential and the WORD (Wechsler Objective Reading Dimensions, Rust et al. 1993) test was administered to measure achievement in literacy skills, i.e. reading, reading comprehension and spelling skills. The Ability-Achievement discrepancy score was calculated using Tables C.1 to C.7 of the WORD test manual (Rust et al., 1993). These measures helped to distinguish between relatively high achieving dyslexic pupils from relatively low achieving dyslexic pupils. It also helped to construct a sample across the ability range, i.e. not just brighter pupils with biggest discrepancies in achievement but also less able pupils. In addition, other diagnostic tests such as tests of phonological awareness, information processing speed, visual recall and clinical judgement were applied in the identification of the study's sample. The aim of this study is to try and choose a homogeneous group sample in terms of the subjects' age and gender. A 'criterion' sampling in which all the subjects participating in the study have to meet the criterion of being 'at risk' as a result of their dyslexia type difficulties is adopted. The researcher asked permission from the parents of the children assessed to use the obtained data in this study. It was explained that the data would be used anonymously and children would not be identified by their names in any part of this research.

Sources of data

Instrumentation

A range of formal test measures was used to collect data. In this study questionnaires and standardised tests were used. The WISC-III UK and the WORD test are standardised tests and were used for the identification of dyslexic children. These instruments have substantial validation evidence and are widely used by educational psychologists.

WISC-III UK Test

The WISC-III UK (Wechsler Intelligence Scale for Children - Third Edition UK, 1992) is an individually administered clinical instrument for assessing the intellectual ability of children with the age range of 6 to 16 years 11 months. The test is standardised for UK children. The literature review on the WISC-III UK provides support for its validity as a measure of intellectual functioning in children. The WISC-III UK test was found to have moderate to high correlation with other tests measuring intellectual ability, such as the Differential Ability Scales (DAS) (Wechsler, 1992). The test consists of several subtests, each measuring a different facet of intelligence. In addition, it is an efficient tool for acquiring both clinical insights and objective information on the children assessed. The children's performance on these subtests are summarised in three composite scores, the Verbal, Performance and Full Scale IQ scores. These scores provide estimates of the individual's intellectual abilities in different areas. In addition, four factor-based Index scores are calculated which include Verbal Comprehension Index, Perceptual Organisation Index, Freedom from Distractibility Index and Processing Speed Index. In administering and interpreting the results of this test the examiner must take into consideration factors such as the children's social and medical history, their linguistic and cultural background, and other personal factors such as attitudes, motivation, persistence and performance anxiety. These factors may influence the children's performance on the test as well as their performance in everyday life. The WISC-III UK test plays an important role in the assessment of children whose educational progress is giving cause for concern. The test allows the identification of particular cognitive strengths and weaknesses, and facilitates the decision about future intervention in terms of management and resource allocation.

The WORD Test (Wechsler Objective Reading Dimensions)

The WORD (Rust et al., 1993) test is an individually administered test of word reading, spelling and reading comprehension, and is designed for use with pupils aged between 6 and 16 years. It has an adequate stability across time and across ages, thus the test re-test stability allows the examiner to measure pupils' progress over time where concern has been expressed. One of the major uses of WORD is to compare children's general intellectual ability level and their academic achievement level to determine whether or not they have a specific learning disability. Statistical tests applied suggest that the correlation between ability and achievement is statistically significant in the moderate-to-high range, .40 to .75. This correlation indicates that the prediction of attainment on the basis of ability is reasonably accurate for most of the cases in a large group (Rust et al., 1993). There are of course some limitations in using the Ability-Achievement discrepancy analysis in the identification of learning disabilities. The major limitation is in the inherent limitation of assessing academic achievement of young children. In this study the age range of the children was 7-11 years, thus overcoming the limitation of assessing very young children who have limited reading experience or were not exposed to reading in general and reading a lengthy passage in particular. This selected age range has also helped to overcome another limitation which is the precision of measurement of literacy skills at the extremes of the WORD age range, described as the 'floor' and 'ceiling' effects (Rust et al., 1993). In addition, by the age of eleven years the children have not had enough educational experience to compensate for their learning difficulties, thus, making the identification of the nature of their difficulties easier.

Discrepancy score

The WISC-III provides the apparatus for evaluating discrepancies by simple difference (with margins of error taken into account) and by full regression. Berk (1984) and Reynolds (1990) have argued that age equivalents, percentile ranks and ratio IQ scores have statistical limitations that eliminate them from being used as measures for discrepancy analysis. Therefore, the standard scores are recommended

to be used for calculating discrepancies. The WORD Ability-Achievement discrepancy analysis, thus, uses the standard scores for statistical analysis. The Ability-Achievement discrepancy definition of dyslexia uses the predicted achievement method of discrepancy analysis. This method is based on the correlation of ability and achievement, where the ability score is used in a regression equation to calculate a predicted achievement value.

Questionnaires

The questionnaire method was selected by the researcher because it is a pragmatic way of collecting a large amount of data required given the time available. The questionnaires were designed to produce information associated with resilience from the family and school environment as well as from the children's subjective perception of themselves in the school, social and familial milieu. As detailed in Chapter II, the children's social environment (in this case family and school) play an important role in their academic performance, and in their social and emotional well-being. It is also important to identify the children's perception of their subjective experiences, because the way they perceive the world will affect their motivation, and their choice of strategies for dealing (or not) with their difficulties, rendering them resilient or not. To emphasize the importance of collecting this information, Rutter (1990) noted that resilience is a process which characterises a complex social system at a given time, and includes combinations of factors related to the child, family, social and cultural environments. In addition, Garmezy (1985) also emphasizes the importance of taking into account child, family and environmental variables, and the interaction between them, in any research on resilience. This view is held by the researcher as well, hence the importance of administering these questionnaires.

The Family and the School questionnaires are used on a regular basis by the researcher and the Dyslexia Institute to gain information on the child. The Child's Questionnaire, which in part was used by the researcher in previous research on resilience (Milgram and Palti, 1993), included information such as the children's relationships with other family members, with others in school and in the larger

community, their sociability, their perceived level of impulsivity and frustration tolerance, their perceived weaknesses and strengths. These factors were identified by researchers to be associated with resilience (Garmezy, 1985; Rutter, 1979, see Chapter II). The B/G Steem Questionnaire was administered to measure self-esteem and locus of control.

- a) The family questionnaire was designed to include items which would produce information on variables such as: home, school and social environments, health and early development of the pupils, composition of family and parental occupation. In addition, questions about the children's attitude to learning and school, and their early educational background are added. Questions on the children's social and emotional adjustment are included to obtain a comprehensive view of the children as perceived by their parents (see Appendix for full questionnaire).
- b) The children's questionnaire (in part used in a previous study on resilience conducted by the researcher, see Milgram and Palti, 1993) dealt with self-ratings of one's temperament and personal-social characteristics, with sources of reinforcement, attention and empathic concern in and outside the family, and positive identification models. The majority of the questions were of fixed alternative nature and were coded in the same direction as the other scales, from (1) positive to (4) negative. Some items of the questionnaires are open-ended and allow a semi-structured interview with the child (see Appendix for full questionnaire).
- c) The school questionnaire includes general information on the school's policy for dealing with children's learning difficulties. The questionnaire also examines the school's perception of the children's abilities and difficulties in relation to their peers in class, their attitude to work and their social and emotional adjustment in school (see Appendix for full questionnaire).
- d) B/G Steem Questionnaire for measuring Self-Esteem and Locus of Control (Maines and Robinson, 1988).

Some difficulties were encountered in selecting a measure of self-esteem and locus of control. First, the majority are of American origin which create some difficulties in understanding the questions. Second, many are designed for secondary age pupils, and third, some are dated. Due to the nature of the research sample, young dyslexic pupils, it was important that the children would not encounter major difficulties in comprehending and completing the questionnaire.

The B/G Steem (see appendix) questionnaire was compiled by Maines and Robinson (1988) with the aim (p. 3):

- To investigate the influence of self-concept on children's learning and behaviour.
- To consider the possible association between self-concept and locus of control.

The questionnaire was first piloted by Maines and Robinson and then standardised using a sample of 724 children in different areas of the United Kingdom drawn from a range of school types by the test/re-test method. The results provided a normal distribution of scores and re-test reliability was above 80% rising to 100% in some categories.

Thus, the measure was selected for this research on the basis that, not only was it a standardised measure, but it was also:

- Easy to comprehend for the research sample
- Required the pupil only to circle a YES or NO answer
- Designed for British children
- Had a range of age groups which fitted the research sample

Consequently, the pupils of the research sample encountered no significant difficulties in completing the questionnaire on their own. However, when children had severe reading problems, the questions were read aloud to them. The questionnaire consists of 27 items where the children circle their chosen answers which were YES or No. Twenty of the questions investigated self-esteem while seven determine locus of control. A score sheet for self-esteem and locus of control

questions is provided against which the answers are matched. One point is awarded for each answer that matches the score sheet. The total score provides a measure of self-esteem or source of control. The maximum scores possible for primary children are 20 for self-esteem and 7 for locus of control. Further analysis can be undertaken to determine more specific areas of strength and weakness in self-esteem. Self-esteem levels were divided into five categories of very low, low, normal, high and very high. The locus of control scores were classified under external, normal and internal. The gained points were then compared with the norm chart to define the level of the children's measured self-esteem and their level of locus of control.

Piloting the questionnaires and the tests

In order to determine the time required to complete the questionnaires and to ensure that the questions and the instructions were understood, the Child's questionnaire and the B/G Steem questionnaire were piloted on five dyslexic pupils, of different ages, during formal assessment sessions. During the piloting some questions from the original (previously used by the researcher) Child's questionnaire were re-worded and some were deleted.

Administration of the questionnaires

The majority of the questionnaires were administered by the researcher at the time of the psycho-educational assessment. Some questionnaires were completed at a later date, and some were completed with the help of the children's parents or tutors. In most of the cases the questionnaire was read aloud to the children and the children ticked the appropriate answer. In all cases, however, an adult was available to explain to the children the words or the questions they did not understand or were uncertain of. There was no limit on the time the children required to complete the Child questionnaire and the B/G Steem Questionnaire. When the children volunteered additional information, it was recorded for later reference. The information obtained from the questionnaires and the B/G Steem Questionnaire was analysed with statistical testing.

Preparation for data analysis

The information gained from the standardised tests and questionnaires was entered into a spreadsheet to facilitate statistical analysis using the statistical package of SPSS for Windows (Wright, 1997). Information from each case was entered on the day of the completion of the tests and the questionnaires to avoid a large amount of information to be manipulated at one time. In addition, it enabled the researcher to ensure that all items in the questionnaires were completed. Those cases where missing information was not obtainable were not included in the study.

The B/G Steem Questionnaire was marked and scores of Self-Esteem and Locus of Control were entered on the spreadsheet. Scores obtained from the WISC-III UK and the discrepancy scores of Reading, Reading Comprehension and Spelling as measured by the WORD test were entered as well on the spreadsheet of the computer.

Four main methods of analysing the data were employed. The Chi-square was used for nominal scale data, single factor independent samples ANOVA was used for most of the other variables, and Multiple Linear Regression was used to investigate the main predictors of the various discrepancy scores. The t-test was used to compare the means of the high and low discrepancy groups.

Chapter summary

This chapter has outlined the steps taken and the methodology adopted in this study. The sample in this study is a self-selected and criterion sample where all the subjects had to meet the workable definition chosen for dyslexia. The sample included 80 boys aged 7-11 years. The discrepancy between the children's abilities and their achievements as measured at the assessment (using the WISC-III UK and WORD tests to measure Ability-Achievement discrepancy), in addition to the information gained from the school, the parents and the researcher's clinical judgement, determined whether the children were categorised as experiencing dyslexia type difficulties or not. Educationally resilient children were identified

according to low Ability-Achievement discrepancy scores, whilst non-resilient pupils were identified as high Ability-Achievement discrepancies. This ensured a spread across normal ability range – not just more able children. This was also the procedure to determine whether the children would be included in the sample or not.

The study aims to approach the problem from different perspectives, i.e. exploring factors related to the individuals, their family, school and other environmental factors, associated with resilience in children who are considered to be at risk as a result of their dyslexia. Quantitative data was gathered by the use of questionnaires (Child, Family and School). In addition, a test to measure their self-esteem and locus of control was administered. The data was then statistically analysed using four different main methods, each depending on the nature of the data. The Chi-square was used for nominal scale data, single factor independent samples ANOVA was used for most of the other variables, and Multiple Linear Regression was used to investigate the main predictors of the various discrepancy scores. The t-test was used to compare the means of the high and low discrepancy groups.

The study aims to provide a perspective on educational resilience of dyslexic pupils so that preventive measures can be taken, or specific provision can be constructed for dyslexic pupils to develop those aspects found to be most helpful in educational achievement (resilience), despite the apparent “risky circumstances”. The next chapter will outline the findings obtained using these statistical analysis.

Chapter V

Analysis of data

In this chapter the analysis of data obtained in the study will be outlined. The data obtained from the questionnaires on 80 pupils were analysed in order to identify those factors which are associated with educationally resilient dyslexic children: namely, those children who despite their specific learning difficulties managed to perform relatively better in literacy skills than other dyslexic pupils in the sample. The data included information that represents an attempt to sample the children in terms of their socio-emotional aspects as perceived by their parents, the school and the children themselves.

Four main methods of analysing the data were employed. The Chi-square was used for nominal scale data, single factor independent samples ANOVA was used for most of the other variables, and Multiple Linear Regression was used to investigate the main predictors of the various discrepancy scores. The t-test was used to compare the means of the high and low discrepancy groups.

Firstly, the characteristics of the sample will be described. These were calculated on the children's general ability as measured by the WISC-III UK (Wechsler, 1992), on the level of the discrepancy scores in Reading, Reading Comprehension and Spelling skills as measured by the WORD test (Rust et al., 1993), and on the B/G Steem Questionnaire (Maines and Robinson, 1988) measuring Self-Esteem and Locus of Control.

Sample characteristics

The type of sampling used for this study was a criterion sampling in which all the subjects participating in the study met the criterion of being 'at risk' as a result of their dyslexia type difficulties. It included eighty male dyslexic subjects (7-11 years) using the Ability-Achievement Discrepancy definition of dyslexia. As mentioned in earlier chapters, this definition was used to facilitate statistical operations, without claiming that it is the best or only definition of dyslexia.

The sample's IQ distribution is shown in Table 4.1.

Table 4.1: *Mean and Standard Deviations(SD) for the IQ scores of the 80 male children participating in the study.*

IQ Variable	Mean	Standard Deviation
Verbal IQ	107.77	14.17
Performance IQ	99.16	12.40
Full IQ	104.24	13.45

As shown in Table 4.1, in general terms the sample appears to have IQ scores within the normal range of the intelligence distribution (Wechsler, 1992). However, a t-test administered showed that, although the scores are within the average range, the mean score of the Verbal IQ subtests (107.77) is significantly higher than the score of the Performance IQ subtests (99.16): $t(79)=5.89$, $p<0.001$. This may suggest that the study's sample comes from a particular population with a relatively higher verbal ability.

Resilient children, children who appear to be coping well despite adverse circumstances, have been frequently found to possess a relatively higher measured level of intelligence, about one standard deviation above the mean (Joseph, 1995), than non-resilient children (Garmezy et al., 1984; Masten et al., 1988). The population sample in this study shows an IQ score distribution relatively similar to the normal distribution of the general population with the mean in the general population for the Full Scale IQ score being 100 and with a standard deviation of 15. This suggests that the present study's sample mean, being within the average range of intelligence, is not biased towards the resilient children in terms of their IQ score. The IQ score in this study was not used to determine resilience in dyslexic children, although as stated above, the IQ score is a factor that may predict resilience, particularly in educational resilience (Joseph, 1995). The main reason for not using the IQ level for prediction of resilience in dyslexic children in this study is because the IQ score was used as a factor in determining the sample population, thus it was not possible to use it again in the statistical calculations for identifying resilience. The descriptive statistics for the sample population in terms of their Ability-Achievement discrepancies, i.e. differences between predicted and actual subtests standard scores of reading, reading comprehension and spelling scores are shown in Table 4.2.

Table 4.2: Mean and Standard Deviations (SD) for the Ability-Achievement discrepancies of reading, spelling and reading comprehension scores, of the 80 male children participating in the study.

	Mean	St. Deviation
Reading	14.01	13.00
Spelling	18.55	10.00
Reading Comprehension	14.69	11.29

According to table C-5 of the WORD manual (Rust et al., 1993, p. 134) only about 5-10% of individuals would obtain a discrepancy score of 14.01 in reading, about 3-4% of individuals would obtain a discrepancy score of 18.55 in spelling, and about 5-10% of individuals would obtain a discrepancy score of 14.69 in reading comprehension. Though the scores suggest that the study's sample is generally under-achieving in all literacy skills, the most significant experienced difficulty is in spelling skills.

Main findings of the study and comments

The review of literature about the learning processes do not regard learning difficulties as developing solely within the individual but also from the individual's interaction within his social context (Coles, 1987). Because of the importance of the interaction of the dyslexic children with their immediate social context in the process of learning, questionnaires were administered to collect information from different sources within the social context of the children, i.e. the parents, the school staff and the children's own perception (unfortunately, no information was obtained from the peer group).

The main findings of the study are presented in four sections in terms of socio-emotional factors. In the first section, data relating to the influence of the family environment on the socio-emotional development of the dyslexic children will be presented. This is followed by a section dealing with the school environment and finally a section dealing with the children's own perceptions. All the findings are then discussed in terms of factors associated with resilience.

Before considering the results for the different environments, a multiple linear regression was conducted on the three discrepancy scores, with the independent variables being: Self-Esteem, Locus of Control, the level of attention the children feel that they receive, and if they feel satisfied with that level of the attention received, how well they get on with others in the family, their sociability, the level of their satisfaction with their achievement in school and their level of enjoyment of their school life, their level of frustration tolerance and their impulsivity level.

The multiple regression sought to determine whether the magnitude of the discrepancy scores was related to any of these factors. Results indicated that no significant predictors were observed for either of the three discrepancy scores, i.e. reading, reading comprehension and spelling, at the .05 level of confidence.

However, a series of Pearson and Spearman correlations showed a number of borderline effects. Using the Pearson correlation for the measure of reading discrepancy, levels of self-esteem were negatively correlated with discrepancy scores ($r = -0.212$, $p = 0.059$) and level of frustration tolerance was positively correlated ($r = 0.199$, $p = 0.077$). The values of these two correlations remained essentially unchanged using the Spearman correlation ($r = -0.225$, $p = 0.045$ and $r = 0.203$, $p = 0.07$ respectively). Thus lower discrepancy scores tend to be associated with higher levels of self-esteem, and higher frustration tolerance level. The suggestion is that dyslexic pupils who coped relatively well with reading skills rated themselves higher on the self-esteem scale than those who achieved lower reading scores. They also described themselves as possessing a higher level of frustration tolerance, i.e. do not get frustrated easily.

For the spelling discrepancy score the only correlation to approach significance was that of frustration tolerance (Pearson $r = 0.195$, $p = 0.084$). This was similar for the reading comprehension discrepancy and frustration tolerance ($r = 0.191$, $p = 0.09$).

Given that correlations between the discrepancy scores and other ordinal and interval variables were generally not found, it was decided that it would be more fruitful to investigate differences between high and low discrepancy scores using another approach, the ANOVA, and to classify the children into two discrepancy groups. It should be noted that, when interpreting the results of this analysis, it is essential not to conclude that the factors that failed to achieve statistical significance were of no importance. This could be due, in part, to sampling error associated with the small sample size and also to the fact that many social indicators may be intercorrelated so that the emergence of one variable rather than the other as a factor predicting resilience may have been partly by chance.

In the following sections, the children were allocated into two groups (termed Low and High discrepancy groups) on the basis of their discrepancy scores for each of the three literacy scales, i.e. reading, reading comprehension and spelling. Children were allocated to the two groups based on a median split which would give about 40 children per discrepancy group. For reading, discrepancy scores of 14 or less were recorded as low discrepancy group, and discrepancy scores 15 or greater were recorded as high discrepancy group. For spelling, scores of 19 or less were recorded as low discrepancy group, while 20 or greater were recorded as high discrepancy group. For reading comprehension, scores of 15 or less belonged to the low discrepancy group, while 16 or greater belonged to the high discrepancy group. Because of the distribution of scores, equal numbers of children do not appear in each group. These two groups were used as the main factor in an F-test derived from ANOVA where the dependent variables were derived from each of the three main areas (family environment, school environment and children's own perception). Table 4.3 describes the two groups in terms of their mean score and number of subjects included in each group.

Table 4.3: *Mean discrepancy scores for the two discrepancy groups. Number of children shown in parenthesis.*

Discrepancy Measure	Low	High
Reading	3.97 (39)	23.56 (41)
Spelling	10.50 (41)	27.00 (39)
Reading Comprehension	6.03 (40)	23.35 (40)

A series of independent sample t-tests were conducted to determine whether the various high and low discrepancy groups (of reading, spelling and reading comprehension) differed on measures of Processing speed, Freedom from Distractibility and Verbal Comprehension factors of the WISC-III UK. This is thought to be important in order to eliminate the possibility that the observed differences between the high and low achieving groups are not affected by the above noted sample characteristics. As noted before a median split was used for the 80 children and there were approximately 40 children in the low and high discrepancy groups.

Table 4.4: *Mean scores on measures of Processing Speed, Freedom from Distractibility and Verbal Comprehension for the low and high discrepancy groups for the three kinds of discrepancy.*

Variable	Reading Comprehension Discrepancy		Spelling Discrepancy		Reading Discrepancy	
	Low (n=40)	High (n=40)	Low (n=41)	High (n=39)	Low (n=30)	High (n=40)
Processing Speed	90.4	92.1	90.2	92.3	89.7	92.6
Freedom from Distractibility	95.2	90.9	92.3	93.8	92.6	93.5
Verbal Comprehension	109.5	110.2	107.6	112.3	108.1	111.5

Table 4.4 shows the mean scores on the variables of Processing Speed, Freedom from Distractibility and Verbal Comprehension factors as a function of high and low groups on the three discrepancy measures. For the two reading comprehension discrepancy groups there were no significant differences between the groups on Processing Speed factor ($T(78) = -0.54$, $p=0.59$), Freedom from Distractibility factor ($T(78) = 1.36$, $p=0.18$) or Verbal Comprehension factor ($T(78) = -0.24$, $p=0.81$). Similarly there were no significant differences on any of the measures for the spelling discrepancy groups ($T(78) = -0.66$, $p=0.51$; $T(78) = -0.46$, $p=0.65$ and $T(78) = -1.52$, $p=0.13$ respectively). Finally, for the reading discrepancy groups there were no significant differences on the three measures ($T(78) = -0.93$, $p=0.36$; $T(78) = -0.3$, $p=0.76$ and $T(78) = -1.11$, $p=0.27$ respectively). In summary, for all three methods of classifying discrepancy groups, the high and low discrepancy groups did not differ significantly on measures of Processing Speed, Freedom from Distractibility or Verbal Comprehension factors.

Family environment

The need to take account of the perception of the family members in the process of their children's education is fundamental (Anthony, 1974; Garnezy, 1983; Osborn, 1990). Learning difficulties are explored by looking both at the cognitive processes involved and the social interaction of the children. The family circle has a central impact on the learning process of the children. The effects of literacy learning difficulties are very likely to be reflected in social, emotional and behavioural problems observed within the family context, hence the administration of the family questionnaire.

Results obtained from the family questionnaire (see Appendix I) show some significant effects on the discrepancy scores of reading, reading comprehension and spelling skills. Some effects were more significant on some literacy skills discrepancy scores and not on others, and these are outlined below. The main findings are that sleep patterns, fears, nervousness, how well the children get on in school and soiling problems were observed by parents as more prevalent than other factors that were investigated in this study. The findings for the family questionnaire are outlined below in reference to the questions posed.

- For the question relating to sleep disturbances (has the child shown nightmares or disturbed sleep), there was a borderline effect on reading discrepancy scores ($F(1,78)=3.59$, $p=0.062$): those reporting no sleep disturbance had higher mean discrepancy scores (15.2) than those who do report having sleep disturbances (9.2).
- For the question related to fears (has the child shown any unusual fears or phobias) there was a significant effect on reading ($F(1,78)=4.00$, $p=0.049$), and a borderline effect on reading comprehension ($F(1,78)=3.18$, $p=0.078$). For reading comprehension discrepancy scores, those reporting no fears had higher discrepancy scores (15.48) than those who reported having fears (8.44).

Similarly, for the reading discrepancy score, those reported showing no fears had higher discrepancy scores (15.03) than those who reported showing fears (6.00). Scores suggest that dyslexic pupils who were less effective in reading and reading comprehension skills were described by their parents as less fearful than their better performing peers. (Possible explanation for these findings may be that the energy and efforts invested by the dyslexic pupils to overcome their learning difficulties render them emotionally more vulnerable, and this is reflected in their display of fears and phobias).

- For the question related to whether the children get on well in school as perceived by their parents there was a significant effect on reading ($F(1,78)=4.10$, $p=0.046$) and reading comprehension ($F(1,78)=4.47$, $p=0.037$). For the reading discrepancy, those who reported that they get on well in school showed higher discrepancy score (16.02) than those who do not get on well in school (9.85). Similarly, for the reading comprehension discrepancy, those who reported that they get on well in school showed higher discrepancy score (16.50) than those who reported that they do not get on well in school (10.92).
- For the question related to whether the children have shown any nervousness, there was a significant effect on spelling ($F(1,78)=4.15$, $p=0.045$). Those who reported showing nervous behaviour had relatively lower spelling discrepancy scores than those reported not showing nervous behaviour.
- Significant effects were found for the question whether the child has shown 'soiling' problems on reading ($F(1,78)=4.40$, $p=0.039$) and on reading comprehension ($F(1,78)=5.62$, $p=0.020$). (Number of children showing soiling behaviour at this study is low (3 children) and caution must be exercised when interpreting this finding). For the reading discrepancy score, those who reported showing soiling problems had lower discrepancy scores (1.00) than those who reported no soiling problems (14.70). For the reading comprehension discrepancy scores, those who reported soiling problems showed lower discrepancy scores (2.00) than those who reported no soiling problems (15.36).

In summary, the results from the family questionnaire suggest that children with lower discrepancy scores in reading and reading comprehension skills showed problems relating to fears and getting on well with others in school. Soiling problems were also associated with low discrepancy scores for reading and reading comprehension. In addition, children with low discrepancy scores in reading were reported to show sleep disturbance. Children with relatively lower discrepancy scores in spelling were described as showing nervous behaviour. These findings are surprising as one assumes that children with difficulties in learning generally exhibit more observable socio-emotional difficulties. However, in this study the socio-emotional difficulties observed were more associated with dyslexic children who perform relatively better at academic work.

One possible explanation for these findings may be that those children who perform better academically work harder and invest more energy in their attempt to overcome their difficulties. This in turn, leaves no energy to suppress their emotional difficulties related to learning. Conversely, children who show higher discrepancy scores, i.e. exhibit more academic difficulties, may not experience the emotional pressure experienced by their better achieving dyslexic peers as a result of their hard work and show no need to release the emotional pressure via disturbed behaviour. Thus, high achievement for dyslexic children has an emotional cost as it is more stressful for them to keep up with the academic work. In other words, they exhibit a trade-off behaviour relating to coping strategies.

Table 4.5 below summarises the socio-emotional profile of dyslexic children as described by their parents.

Table 4.5: *The profile of dyslexic pupils at home as reported by their parents.*

Discrepancy measure	Low	High
Reading	Soiling Fears Sleep disturbance	Gets on well in school
Reading Comprehension	Soiling Fears	Gets on well in school
Spelling	Nervous	

As Table 4.5 shows, dyslexic pupils who perform relatively better academically are generally described by their parents as showing fears, nervous behaviour and experiencing soiling problems. Those who obtain relatively lower academic scores did not show the expected socio-emotional difficulties such as disturbed sleep patterns and fears. They were described as getting on well in school. Their socio-emotional characteristics differed for the type of difficulties they show, i.e. whether the difficulty is in reading, reading comprehension or spelling. The reason for this difference may be due to the different amount or the kind of input needed to develop each skill, and to the perceived importance of mastering each of these skills.

The school environment

Review of the literature on resilience (see Chapter II) suggests that the social environment of children is as important as the family environment in helping them cope with adverse circumstances. Better networks of informal relationships and formal social support, a significant other outside the family acting as a mentor, and better educational experience are some of the identified environmental facilitators (Rutter, 1990). Good relationships with a teacher may generate the positive attributes associated with the effects of a mentor on the children's positive adjustment to the environment. In addition, the feelings associated with positive and reinforcing learning experiences may be transferred to other situations, enhancing the ability to deal with stressful situations effectively (Fonagy et al., 1994).

The importance of the school and social environment of the children in their learning process is appreciated by the researcher, hence the administration of the

school questionnaire. The School Questionnaire (see Appendix II) aimed to investigate issues such as the children's behaviour in class, their social relationships with peers and adults in school, and their attitude to school work.

The results of the school questionnaires were analysed and summarised in terms of the questions that were observed as significantly effecting the low or high discrepancy scores. The main factors that described the dyslexic children in the school environment were their competence, their submissive behaviour, their speed of work, their attention-seeking behaviour and their level of sensitivity. The results are described below.

- For the question whether the children show competence in their work i.e. reflected in their capability of completing tasks accurately, there are significant effects on reading ($F(1,78)=3.89$, $p=0.052$) and reading comprehension ($F(1,78)=5.56$, $p=0.020$). For both reading and reading comprehension scores, those who were reported to show greater competence had lower discrepancy scores (6.11 and 6.56 respectively) than those who were reported to show poor competence (15.01 and 15.72 respectively).
- For the question whether the children show submissive behaviour i.e. being more obedient to class or social rules in school, there was a significant effect on spelling ($F(1,78)=8.74$, $p=0.004$), but not on reading and reading comprehension. Those who reported showing more submissive behaviour have lower discrepancy scores than those who reported showing no submissive behaviour (19.39). It seems that in order to perform better in spelling skills, being compliant (to rules, such as for spelling) is a useful personality attribute.
- For the question whether the children were slow in their work, there was a borderline effect on their spelling ($F(1,78)=3.30$, $p=0.07$). No other significant effects were observed. Those who were reported to be slow showed higher discrepancy scores in spelling than those who were not reported to be slow (16.03).

- When sensitivity of the pupils was questioned at school, results suggested that the majority of the pupils were not described as sensitive to criticism or failure, but when they were described as sensitive, the majority belonged to the group of high discrepancy scores for spelling, reading and reading comprehension skills. Table 4.6. shows the distribution of the number of pupils who were described as sensitive in terms of percentages (distribution of number of pupils who were not described as sensitive is omitted from this table).

Table 4.6: *Percentages of dyslexic pupils described as sensitive presented in terms of low and high discrepancy scores groups for reading, reading comprehension and spelling discrepancy scores.*

Discrepancy Measure	Low	High
Reading	15.38%	84.62%
Spelling	15.38%	84.62%
Reading Comprehension	23.08%	76.92%

For reading ($\chi^2(1)=6.92$, $p=0.008$)

For spelling ($\chi^2(1)=7.99$, $p=0.004$)

For reading comprehension ($\chi^2(1)=4.50$, $p=0.034$)

Thus, dyslexic pupils who showed lower levels of academic performance, i.e. higher discrepancy scores, were described by their school staff as more sensitive. (Frequent exposure to failure and criticism may have lead to the increased emotional vulnerability or increased sensitivity of dyslexic children.)

- When the school staff were asked to describe the behaviour of the children in class, 71.38% of children were described as not seeking attention in class. But when they were so described, they showed relatively higher reading comprehension discrepancy scores (69.56%) as opposed to those belonging to the lower discrepancy group for reading comprehension (30.44%). Scores suggest that dyslexic pupils who perform relatively better in reading comprehension in class tend to seek less attention than those who exhibit more difficulty in reading comprehension ($\chi^2(1)=4.942$, $p=0.02$). This description may be misleading as children who do not understand what they read may go to

the teacher to seek explanation more often than others and so may be perceived as attention seeking.

The educationally resilient dyslexic pupils were found to show relatively more difficulties relating to social adjustment and more observed symptoms of emotional maladjustment. Thus, the educationally resilient pupils pay an emotional cost for their academic success. Findings of the present study suggest that different socio-emotive characteristics were associated with educationally resilient dyslexic pupils compared with their less educationally resilient dyslexic peers. In summary, dyslexic children who obtained low discrepancy scores (achieve relatively higher academic levels) in reading and reading comprehension skills were described as being competent by the school staff. These are the children who were perceived as capable or skilled enough to complete the tasks effectively. Those who perform relatively better in spelling (low discrepancy scores) were described as submissive. Dyslexic pupils who showed lower levels of academic performance (high discrepancy scores) were described as sensitive. Those with reading comprehension difficulties were also described as attention seeking by their teachers, while those showing more difficulties in spelling were described as slow at their work.

Results of the School Questionnaire, similar to the Family Questionnaire, once again suggests that high achievement for dyslexic children in this study carries an emotional-behavioural cost. Table 4.7 shows the socio-emotional profile obtained for dyslexic pupils in school. Children were divided into two groups (high and low discrepancy scores) for reading, reading comprehension and spelling.

Table 4.7: *Socio-emotional profile of dyslexic pupils in school as reported by the school staff.*

Discrepancy Measure	Low	High
Reading	Competent	Sensitive
Spelling	Submissive	Sensitive Slow
Reading comprehension	Competent	Sensitive Attention seeking

Table 4.7 suggests that dyslexic pupils are described differently according to whether they are showing relatively lower or higher academic standards. Also, their descriptions differ for each of the literacy skills measured. Thus, pupils who perform well in reading may possess different socio-emotional characteristics than those who perform relatively well in spelling, and children who perform relatively better academically may possess a different cluster of socio-emotional characteristics than those who show relatively more difficulties in learning. This finding confirms the hypothesis (see Chapter I) that those factors associated with resilient children do not necessarily mirror those associated with non-resilient children, and different clusters of characteristics may describe each group. In addition, dyslexic children who were perceived as resilient academically (low discrepancy scores) showed fundamental vulnerability in relation to socio-emotional aspects.

Analysis of Child Questionnaire

There is little systematic documentation in the literature of dyslexia about dyslexic children's views and feelings on their perceived difficulties in the family, school and social environments. This valuable information must not be ignored when exploring the effects of dyslexia-type difficulties on the learning processes of children. Some documentation exists about adult dyslexic individuals and their own difficulties as perceived by them retrospectively (Joseph, 1995). But these reports may be contaminated by different life experiences since childhood. The importance of children's views and feelings about their current difficulties is valued by the researcher, as they pave the way to the strategies adopted for coping with their difficulties, hence the administration of the Child Questionnaire (see Appendix III).

Statistical analysis (t-test to compare the means of the high and low discrepancy groups) was carried out on the data obtained from the children's questionnaire to find factors affecting educational resilience in dyslexic children. Results showed some borderline effects and these are summarised below: (Some results were described by using percentages. Results of chi-square tests are also shown below the tables where appropriate).

- For the reading comprehension discrepancy score, results narrowly failed to reach conventional levels of significance between the group means in relation to whether the children help others in need or not ($t(78)=1.70$, $p=0.093$). Those with lower discrepancy scores tend to report that they help others relatively less (1.87) than those with higher discrepancy scores (1.62). (One possible explanation for this may be that dyslexic children who perform better academically may not feel the need to be socially accepted by being helpful to others. Conversely, for those children who achieve poorer academic standards, being helpful to others may prove a form of cover up for their inadequacy.)
- There was also a borderline significant difference between the group means in terms of the children's level of frustration tolerance ($t(78)=-1.71$, $p=0.091$). Those showing lower discrepancy scores for reading comprehension reported higher frustration tolerance (2.15) than those showing higher discrepancy scores (2.55).
- For the spelling discrepancy score there was a borderline difference between the means of the two groups for the locus of control factor ($t(78)=-1.74$, $p=.087$). Those with lower discrepancy scores obtained a lower score in the locus of control scale than those with higher discrepancy score (4.83 and 5.30 respectively). Plotting the scores on the B/G Steem Questionnaire chart suggests that those with the lower discrepancy scores are placed within the normal range while those with the relatively higher discrepancy scores are placed at the borderline between the normal and internal locus of control. There was also a borderline significant difference between the means of the two groups for the locus of control group in relation to reading discrepancy scores ($t(78)=-1.70$, $p=0.093$). Those with lower discrepancy scores showed lower level on the scale than those with higher discrepancy score (4.82 and 5.29 respectively). These findings are similar to those obtained for the effect of locus of control and spelling.

- For the reading discrepancy score there was a marginal difference between the means of the two groups on their report of how well they get on with their mothers ($t(78)=1.72$, $p=0.090$). Those who achieve relatively lower standards academically reported that they get on well with their mothers.
- When children were asked whether they share their sadness with others and with whom they share it, 45% reported that they do not share their sadness with anyone. But among those who do so, 35% reported that they share their sadness with their mother, 11.2% share their sadness with their father, and 8.8% share their sadness with someone else such as a friend or a teacher. The majority of those who share their sadness with others obtain relatively lower standards in literacy skills. Pupils who show lower discrepancy scores, i.e. achieve relatively higher in school tend to share their sadness with their mothers more than those who achieve lower standards ($\chi^2(3)=6.81$, $p=0.078$).
- For the question of how much attention they think they have received as young children, 58.8% responded that they feel that they received less attention than other children, while 13.8% reported not receiving any attention at all. Those who reported not receiving any attention were mainly pupils from the high discrepancy group for reading comprehension, i.e. achieving relatively lower scores in reading comprehension ($\chi^2(3)=6.54$, $p=0.088$).
- When asked whether they do activities as a family 81.25% reported that they do, while 18.75% reported that they do not do activities as a family. The distribution of the responses is described below in table 4.8.

Table 4.8: *Children's responses to the question of whether they do activities as a family or not, for the reading comprehension discrepancy group.*

	Low	High	Row Total
Yes	45%	36.25%	81.25%
No	5%	13.75%	18.75%
Column Total	50%	50%	100%

($\chi^2(1)=4.02$, $p=0.04$)

As shown in table 4.8. those who showed low discrepancy scores reported doing activities as a family more than those showing higher discrepancy scores. The majority of pupils who did not do activities as a family belonged to the high discrepancy score group (13.75%), i.e. performed relatively lower academically. To investigate further the kind of activities they did as a family, the children were asked to describe the activities and these were categorised under games, sport, walking trips, and housework and gardening (due to the very small number of children reporting visiting museums as a family activity the result was omitted from the table). The results obtained for reading comprehension discrepancy scores are summarised below in Table 4.9.

Table 4.9: *The kind of activities children reported doing as a family for the reading comprehension discrepancy scores group.*

	Low	High	Row total
Games	12.5%	3.75%	16.25%
Sport	15%	16.25%	31.25%
Walking	13.75%	17.5%	31.25%
House work	3.75%	0%	3.75%

$\chi^2(4)=9.74$, $p=0.045$

Table 4.9 shows that a larger proportion of children who played games as a family activity belonged to the low discrepancy scores group (12.5% as opposed to 3.75% for the high discrepancy group). No noteworthy difference is observed between the low and high discrepancy groups for other family activities.

The scores may suggest that there is an association between games which are mainly structural and require the acceptance and knowledge of rules, and the dyslexic children's ability to cope with their difficulties in literacy skills. Those who played less games showed a higher level of discrepancy scores in all literacy skills, particularly in reading comprehension.

- To measure their impulsivity level the children were presented with a question asking them to report whether they think before they act or they act quickly. The responses are described below in table 4.10. Levels of impulsivity are described in four levels with 1 being not impulsive and 4 very impulsive. All the analyses were conducted on frequency data but presented as percentages.

Table 4.10: *Level of impulsivity as described by children from the spelling discrepancy scores group.*

Discrepancy Scores	Low	High	Row total
I think before I act	21.25%	8.75%	30%
I sometimes act quickly	15%	23.75%	38.75%
I mostly act quickly	7.5%	12.5%	20%
I always act quickly	7.5%	3.75%	11.25%
	51.25%	48.75%	100%

$\chi^2(3)=7.70, p=0.05$

As the table above shows the majority of dyslexic children (70%) described themselves as impulsive in one level or another when spelling was concerned. However, within those children who did not perceive themselves as impulsive (30%), the majority (21.25%) showed lower discrepancy scores in spelling, i.e. those who adopted the stance of ‘thinking before’ an act showed higher levels of academic success in spelling.

This may suggest that mastery of spelling skills for dyslexic children is not automated and there is a need to ‘rehearse’ the learned rules before writing. Impulsivity may also reflect the reduced attention level which is often associated with dyslexic children, hence the relatively larger number of impulsive dyslexic children in this study.

Analysis of data by factors associated with resilience

Self-esteem

Self-esteem in this study refers to Coopersmith's (1967) definition,

"..the evaluation which the individual makes and customarily maintains with regard to himself; it expresses an attitude of approval or disapproval, and indicates the extent to which the individual believes himself to be capable, significant, successful, and worthy. In short, self-esteem is a personal judgement of worthiness that is expressed in the attitudes the individual holds toward himself" (p.5).

In this study, the children's perceived Self-Esteem level was measured by using the B/G Steem measure compiled by Maines and Robinson (1988, see Appendix IV). The questionnaire is simple to understand, easily administered and is compiled for British subjects which made it more suitable for the sample's dyslexic children (for the purpose of this study, the version for boys of junior school age was used – see Chapter IV for description of the test). The obtained scores were categorised under five levels of self-esteem: very low, low, normal, high and very high for age ranges of 6-8 and 9-11 years. Descriptive statistical analysis of the scores suggests that the mean score for Self-Esteem in this study's sample was 15.30 with standard deviation of 2.34. (Minimum score was 6 while maximum score was 19). The mean of 15.30 lies within the normal range for boys at the age range of 6-11 years. Using the Pearson correlation for the measure of reading discrepancy, levels of self-esteem are negatively correlated with discrepancy scores ($r = -0.212$, $p = 0.059$). The value of these correlations remained essentially unchanged using the Spearman correlation ($r = -0.225$, $p = 0.045$). Thus lower discrepancy scores were associated with higher levels of self-esteem. This finding is not surprising and is supported by studies in the literature where self-esteem was correlated with academic achievement (see Chapter III). Rosenberg (1965) noted that good grades contribute significantly in a positive sense to the pupil's self-esteem while poor grades greatly depress self-esteem.

Rosenthal (1973) noted that children with dyslexia show lower self-esteem than do 'normal' or asthmatic controls. However, the majority of the studies compared self-esteem between dyslexic children and non-dyslexic children, but no study, to my

knowledge, has compared self-esteem between relatively low and high achieving dyslexic children.

Robinson and Tayler (1989) suggest that failing pupils will seek to repair threats to self-esteem by either inverting the value so that academic incompetence becomes of high self-esteem (e.g. having to work hard, not having time for fun, not being able to earn money); or by finding and accepting alternative dimensions of value which yield favourable comparisons with the larger population, such as converting the classroom situation to one in which they can have fun messing about and challenge the norms of the educational system; or both together. Despite the common view that dyslexic children in general suffer from low self-esteem as a result of their academic failure (Hales, 1987), results of this study suggest that this should not be generalised and that some dyslexic children may exhibit normal levels of self-esteem despite their academic difficulties. This may be due to their perception of relative or subjective small academic achievement.

This subjective feeling of success is well described by Covington (1992) who suggested that

“while some individuals may need more pass-fail experiences before they become to accept a particular view of themselves, this is only a matter of degree... for the successful encounters, given enough of them, one must eventually come to view oneself as positive or adequate” (p.203-4).

The degree of success is relative. ‘Success’ and ‘failure’ are prone to be defined in apparently objective terms, such as not gaining entry to a specific institution or not passing an exam. The psychological significance of this ‘failure’ or ‘success’ can only be assessed if one is aware of the individuals’ aspirations, their standard of performance, the level they have reached and their interpretation of the discrepancy between them. In addition, if individuals do not value academic success, then academic failure should be psychologically insignificant. Thus, dyslexic children may perceive their ability to read correctly a passage or a story as a small success. Many small successes acknowledged by teachers or parents, may increase their feeling of self-worth. In general terms, many dyslexic children may respond favourably to small success, analogous to the satisfaction associated with winning

one battle and not the whole war. Alternatively, they may not perceive academic success as a valued aspiration and opt out for other successes such as in the social or sport domains. Indeed, findings of this study suggest that academically less achieving dyslexic children were described by their parents and themselves as possessing more positive social skills than their less achieving peers.

Locus of control (LC)

Locus of control in the literature refers to how the individuals perceive control factors in specific events in their lives. Locus of control suggests that the individuals believe in their ability to control the environment and take personal responsibility for their learning and performance, rather than believing that the external environment is determinative. Research has demonstrated that locus of control is an effective factor in the protective process and is present in resilient children who overcome socially disadvantaging factors such as poverty (Luthar, 1991). Several studies indicate that students with specific learning difficulties exhibit a significantly higher external locus of control than do their normally achieving peers (Rogers and Saklofske, 1985; Tarnowski and Nay, 1989). Other studies indicate that students with specific learning difficulties are less likely to interpret success as an indicator of ability and more likely to interpret failure as an indicator of a lack of ability (Palmer et al., 1982). However, some studies fail to demonstrate such correlations (Cooley and Ayers, 1988).

In this study the B/G Steem (and locus of control) test compiled by Maines and Robinson (1988) was used to measure locus of control (see Appendix IV). As mentioned earlier, this test is fully validated, easy to comprehend and administer, and designed to be used with British children. The total Locus of Control score was computed by adding the total number of correct responses ticked by the children. It was then divided into categories of external, normal and internal locus of control.

Descriptive statistics showed that this study's sample had a mean of 5.06, standard deviation of 1.26 and a score range from 1 to 7 points for the measurement of locus

of control. The mean score of 5.06 lies at the borderline between normal to internal locus of control on the scoring table of the test.

For the spelling discrepancy scores there was a borderline difference between the means of the two groups for the locus of control factor ($t(78)=-1.74$, $p=.087$). Those with lower discrepancy scores also showed lower mean score in the locus of control scale than those with higher discrepancy scores (4.83 and 5.30 respectively). Plotting the scores on the B/G Steem Questionnaire chart suggests that those with the lower discrepancy scores are placed within the normal range while those with the relatively higher discrepancy scores are placed at the borderline between the normal and internal locus of control. There was also a borderline significant difference between the means of the two groups for the locus of control group ($t(78)=-1.70$, $p=0.093$) in terms of reading discrepancy scores. Those with lower discrepancy scores showed lower levels on the scale than those with higher discrepancy scores (4.82 and 5.29 respectively). These findings are similar to those obtained for the effect of locus of control on spelling discrepancy scores.

Thus, dyslexic children who perform relatively better in reading and spelling do not attribute their success to their own ability. Conversely, dyslexic children whose academic achievements in reading and spelling are relatively lower, attribute their failure to their lack of ability. Success is not attributed to their own ability, or internal causes, while failure is attributed to self-perceived lack of competence. These findings are consistent with the notion of 'learned helplessness' (Diener and Dweck, 1978). While learned helplessness has been mainly studied in controlled experimental conditions, it seems that it also occurs naturally in schools.

Attachment and significant other

The relationships of the children within their family may reflect the development of attachment patterns. As detailed in previous chapters early attachment relationships have a strong anxiety reducing function (Bowlby, 1973a). The process of attachment at early stages of development has an effect on the children's social, emotional and intellectual development (Cicchetti, 1984), which in turn affect their academic success. Lack of early attachment may increase stress levels in children

and reduce their ability to cope with stressful situations, which in return affect their ability to succeed academically. These assumptions were partly confirmed by findings from the present study where children rated their relationships with individuals in the family, particularly fathers, mothers and brothers as important. There was a borderline significant effect on how well the children get on with their brothers ($p=0.092$, and $p=0.082$) in relation to spelling and reading comprehension respectively.

The importance of the relationship with the mother was also highlighted, though the reported positive relationship did not increase educational resilience (relatively higher academic performance). Those who underachieved in reading described themselves as getting on well with their mothers ($t(78)=1.72$, $p=0.90$). They also tend to perceive their relationship with their mothers as more rewarding and this may be as a result of their mothers' efforts to help and support them.

Thirty five percent of children who shared their sadness with others reported that they share it with their mothers ($\chi^2(3)=6.81$, $p=0.078$), while only 11.2% share their sadness with their father, and 8.8% share their sadness with someone else such as a friend or a teacher. The majority of the dyslexic pupils (58.8%) felt that they had received less attention than other children, while 13.8% reported not receiving any attention at all. Those who reported not receiving any attention were mainly pupils from the high discrepancy group for reading comprehension, i.e. achieving relatively lower scores particularly in reading comprehension ($\chi^2(3)=6.54$, $p=0.088$). Thus, the children's subjective feeling of the level of attention received is found to be associated with educational resilience, and may reflect the children's attachment with a significant other.

One possible way of giving attention to children at home is through activities performed as a family and results of this study suggest that 81.25% of the sample reported that they do activities as a family. Those who reported doing less activities or not doing any activity as a family showed the tendency to obtain higher discrepancy scores, i.e. lower academic achievement ($\chi^2(1)=4.02$, $p=0.04$). Those

who reported playing games as a family (12.5%) achieved relatively higher academic standards than those who reported doing activities such as house work, gardening, sports or walking trips. The benefit of games for academic achievement may lie in the possibility that games are generally more structured and require the acceptance, knowledge and recall of rules. Competence in these skills show positive correlation with the learning process.

In sum, the kind of the relationships the children have with others in the family, the level of attention the children feel they have received, their ability to share their feelings with others in the family and the kind of activities they do as a family are all found to be associated with educational resilience of dyslexic children.

Sociability

The concepts of social interest and social competence were discussed in the literature as associated with resilience (Garmezy, 1981). Garmezy reported that children who possess social interest and social competence are better able to elicit positive responses from parents, siblings, relatives and peers, than less socially competent children. This behavioural repertoire is especially important to disadvantaged children because of the increased need for advice, practical assistance, encouragement and empathy at home, in school and in the community. These children must either take the initiative, search out scarce environmental resources and successfully acquire them on their own, or do without them. Children who possess important social skills manage to engage others and acquire substantial environmental support. Providing support and helping others in a pleasing way elicits from others the desire to reciprocate.

Results of this study showed that parents described their low achieving dyslexic children as getting on well in school socially more than those who achieve higher academic levels ($F(1,78)=4.10$, $p=0.046$ for reading; and $F(1,78)=4.47$, $p=0.037$ for reading comprehension). It is unclear from this study why underachieving dyslexic children were described as getting on well in school by their parents. One possible explanation may be that these children performed well in other areas in school such

as in sports which made them more acceptable by their peers, or that they have developed adequate social skills that render them popular with their peers in order to compensate for their academic incompetence. Thus, they may have applied compensatory strategies or cover-up for their academic inefficiency. Alternatively, it may be that these children who invest energy in their social relationships put less effort in developing their academic skills. It may well be that it is easier for them to gain social acceptance through channels other than academic success. Children who underachieved in reading comprehension described themselves as more helpful to others ($t(78)=1.70, p=0.093$). Thus, lower achieving children show the need to gain social acceptance in ways other than academic success, in this case, by helping others in order to elicit positive social responses. In school, relatively lower achieving dyslexic children were described by their teachers as slow, more sensitive and more attention seeking. However, those who performed better academically, particularly in spelling, were described as more submissive.

In summary, results of this study suggest that the importance of social support, attention seeking behaviour, competence, sensitivity and submissive behaviour are factors that are found to correlate with educational resilience of dyslexic pupils in school.

Frustration tolerance

Dyslexic pupils are perceived as being at risk of failure not only academically but also socially and emotionally. The difficulties in learning experienced by dyslexic pupils may also lead to social and behavioural difficulties in class, and/or at home. The frustration of prolonged failure on a range of curriculum subjects, resulting in feelings of insecurity and lack of confidence can have profound effects upon social status, friendship patterns in class, and acceptance and adjustment in the playground (Webster et al., 1996). The constant need to make tremendous efforts in order to master new academic skills is a primary source of frustration for dyslexic children. Frustration may lead to emotional and social responses that hinder the learning process. Therefore, the level of frustration tolerance the children exhibit may play an important role in academic (and social) achievements or failure.

In this study, there was a marginal significant difference between the group means in terms of the children's level of frustration tolerance ($t(78)=-1.71$, $p=0.091$). Those showing lower discrepancy scores for reading comprehension reported higher frustration tolerance (2.15) than those showing higher discrepancy scores (2.55). In other words, those pupils who experience greatest learning difficulties also demonstrate most susceptibility to frustration. These findings are not surprising and are in line with the literature review (see Chapter III).

Chapter summary

Results obtained from this study show a range of correlations between variables tested and educational resilience in dyslexic pupils. These correlations are described in this chapter under different sections. First, they are described in terms of the three questionnaires which included information from the family environment as perceived by the parents, then the information obtained from the school staff about the children, and last but not least, information obtained from the children themselves.

Some concepts which were found to be associated with resilience in the literature, such as self-esteem, locus of control, sociability, early attachment and frustration tolerance, were also analysed in different sections. All the measured factors were statistically analysed in terms of the level of the discrepancy scores for reading, reading comprehension and spelling skills.

Statistical analysis of the results in this study pointed to marginal significant correlations (at $p=.10$) between educational resilience of dyslexic pupils and self-esteem, level of frustration tolerance and their relationships with members in the family. The analysis of the data obtained from the parents pointed to effects of some socio-emotional factors on educational resilience of dyslexic children. The more significant factors were disturbed sleep, fears, social skills, nervous behaviour and soiling problems. The correlations were not necessarily in the directions predicted, and more educationally resilient children were described as showing fears, sleep disturbance, nervous behaviour and soiling problems (though the number of the

latter cases is small but too significant to ignore). Less educationally resilient dyslexic pupils were described by their parents as more sociable. The most likely explanation for this is, as mentioned earlier, that the dyslexic pupils develop their social skills as compensatory strategies or a cover up for their academic incompetence.

Within the school environment, factors such as competence, attention seeking behaviour, level of sensitivity of the children and their slowness were found to correlate with educational resilience of dyslexic children. More educationally resilient dyslexic children were described as competent and submissive. Less educationally resilient dyslexic children were described as attention seeking, sensitive and slow. Their slow speed of working may reflect the slow information processing speed which is often associated with dyslexia. It is also very likely that those children who asked for help with their work were perceived by their teachers as attention seeking, and that the behaviour was misinterpreted. It is not surprising that the children were described as sensitive by their teachers, as the frequent exposure to failure and criticism experienced by these underachieving children increased their level of sensitivity and their fear of further failure.

Other factors that were found to correlate with educational resilience of dyslexic children and that were obtained from the children themselves were levels of self-esteem, locus of control, the level of frustration tolerance, their sociability, the level of attention they feel that they have received, their relationships with others in the family and the kind of activities they do with the family. The educationally resilient dyslexic children were found to have relatively higher levels of self-esteem and higher levels of frustration tolerance. Playing games as a family activity was also found to correlate with educational resilience in dyslexic children.

The study revealed some socio-emotional factors associated with educationally resilient children. This is an important aspect in terms of the children's ability to cope with educational inefficiencies, and the findings may contribute to other studies that explore only the cognitive aspects of dyslexia in education. In addition, few studies were administered to document the views and feelings expressed by the

dyslexic children themselves at their early stages of education. Some documentation exists to describe the feelings of dyslexic adults in retrospection, such as in Susan Hampshire's book 'My Story' (1990).

However, the small sample size in this study and the fact that some of the independent variables showed some inter-correlation to some extent suggest that though they are valuable, the descriptions should be treated with caution. One independent variable in itself is unlikely to effect educational resilience in dyslexic pupils, but it requires some nurturing variables such as those found in the school and family milieu, and the children's self-perception. Studies of dyslexia should, therefore, take account also of the socio-emotional context and the views of the dyslexic pupils if we are to understand clearly dyslexia or any other learning difficulties.

Chapter VI

Discussion and conclusion

In this final chapter, the findings of the study are discussed and possible explanations for the findings are presented. The limitations and drawbacks of the study are outlined in addition to possible application of the research findings. The main aims and objectives of the study will be discussed followed by proposed modification to the theoretical framework which underpinned the research.

The socio-emotive factors contributing to educational resilience among dyslexic pupils.

Research has emphasized the importance of the familial and social environment in the development of resilience in children. In the present study, the educationally resilient dyslexic children were described as getting on well with their brothers and showed relatively higher levels of self-esteem. They also evidenced higher levels of frustration tolerance. There are generally natural feelings of rivalry and competition in every family. The presence of a child with difficulties in learning in the family may further complicate these feelings. Children with specific learning difficulties may perceive their siblings as more competent, and thus possess some feelings of resentment towards them. The sibling with no learning difficulty may also have some mixed feelings of shame for their less able sibling and a sense of guilt for feeling embarrassed about their sibling.

The educationally resilient dyslexic pupils, in this study, perceived their brothers as supportive and the relationships between them were perceived as positive. There is a possibility that the dyslexic pupils in this study perceived their brothers as less threatening compared with their peers and less demanding than their parents, thus providing a sanctuary which enabled them to cope effectively with their stressful educational experiences. It is also possible that their brothers were perceived as their mentor or a successful 'significant other' to emulate, which research indicates as an important factor in the development of resilience.

Other mentors such as friends and teachers were also mentioned by the dyslexic pupils in this study, but statistically these were not significant. It is possible, though, that the small number of the study's sample may have affected the significance of these responses. Though the academically resilient dyslexic pupils showed relatively higher levels of self-esteem, this was not very significantly higher and the findings are surprising. Research indicates that lack of success in education may lead to lowered levels of self-esteem (see Chapter III).

Surprisingly, in this study, despite their experienced difficulties in learning, the dyslexic pupils generally showed average levels of self-esteem as measured with the B/G Steem questionnaire. However, the academically higher achieving dyslexic pupils' self-esteem levels were marginally higher compared with their less academically achieving peers. Thus, whilst still at a relatively lower level, self-esteem in this study is associated with higher academic achievement. The question remains whether in a study with a large sample the effects of educational success on the level of self-esteem would be more significant.

The academically well-achieving dyslexic pupils showed higher levels of frustration tolerance. Their learning difficulties are primary sources of frustration, and trying to overcome these difficulties requires the ability to persevere and not to succumb to difficulties. One way of doing this is through the ability to tolerate the frustration associated with their inability to master academic skills effectively as their non-dyslexic peers. However, their frustration related to learning may have surfaced in a different form, i.e. aggression or other behaviour difficulties.

Thus, the study's academically successful dyslexic pupils perceived their relationships with their brothers as positive, they showed relatively higher levels of self-esteem and a higher level of frustration tolerance. They were perceived as competent by the school staff, i.e. being capable or skilled enough to complete the class tasks effectively. They were also described as more submissive. Being submissive seems to be an important personal characteristic when learning the rules of basic literacy skills. There is a need for the pupils to accept the newly taught

skills and to adapt to them if they are to compensate for their learning difficulties effectively.

The academically resilient pupils reported that they have received more attention than others and do more activities as a family, such as playing games. The findings of this study reflect the importance of child-parent relationships in developing resilience. Although involvement in joint activities is not easy for some parents who face major on-going stress, those who are so involved can better understand and appreciate the needs of their children and thereby help them to deal more effectively with stressful situations. At the same time, they can provide the children with positive modelling experiences, such as enjoying activities despite, or as a way of coping with, stressful life circumstances.

Findings of this study suggest that one way in which parents can help their dyslexic children cope effectively with their difficulties is by playing board or card games. In addition to the attention the parents give through the games, they help children speed up their organisational, sequencing and processing skills, which are important skills in the learning process. Some memory skills are also being rehearsed via these games as children must remember rules and turns. By mastering these skills effectively, the children may show the competent behaviour in class as perceived and reported by their teachers. Thus, parents and adults need to think, not only about educational teaching programmes, but also how everyday activities can be helpful for children having processing, sequencing, and or other cognitive inefficiencies. In other words, there is a need to search for simple exercises that begin where the children are, in terms of ability, and then later progress by placing greater demands upon the children's performance efficiency.

Children with specific learning difficulties generally have difficulties with impulse control in terms of cognitive and behavioural functions. These may be reflected in their inability to wait turns in games, call out answers in class without being asked, solve problems without reflecting and based on a quick first impression, and interfering in others' conversations. Impulsivity is strongly associated with very low levels of reading attainment (Rutter and Yule, 1975). The educationally resilient

dyslexic children in this study described themselves as less impulsive, and displaying more self-control, thus having the ability to reflect and organise information more effectively.

Children with specific learning difficulties cannot easily read social cues and do not know how to fit well into social groups (Goodman, 1996). Thus, many dyslexic children feel lonely and stop trying socially to avoid another failure. The academically resilient dyslexic children in this study described themselves as helping others less than their peers. In addition to their inefficient social skills, it is possible that these children were investing much energy in dealing with their difficulties in learning which left little stamina to deal with their inefficient social skills. However, though academically successful, these resilient children paid an emotional price for their 'success'. The academically resilient dyslexic pupils were described as more fearful, nervous, having disturbed sleep and getting on less well with others in school than their academically less achieving dyslexic peers. Some of the subjects were also described as experiencing soiling problems, which is generally associated with social difficulties. Thus, the energy and hard work invested in showing higher levels of frustration tolerance when learning was concerned, were then transformed into other symptoms of emotional difficulties such as disturbed sleep, fears and soiling, reflecting the 'price of success'.

It is surprising that the study's academically resilient pupils showed these associated socio-emotive difficulties. It is generally assumed that children with more difficulties in learning are those who exhibit more social, emotional and behavioural difficulties. In this study, more observed socio-emotional difficulties were in large part associated with dyslexic children who perform relatively better at their academic work than their academically less achieving dyslexic peers. One possible explanation for these findings may be that those children who perform better academically work harder and invest more energy in their attempt to overcome their difficulties. This in turn, leaves no energy to suppress their emotional difficulties related to learning. It is also possible that their perceived academic success may fulfil their need to be competent in something and they may not feel the need to be competent socially as well. Conversely, children who show

higher discrepancy scores, i.e. achieve lower academic levels, may not experience a similar emotional stress as experienced by their better achieving dyslexic peers as a result of their hard academic work, and show less need to release the emotional pressure via disturbed behaviour. They may have accepted their educational incompetence and have adopted different ways to be accepted, such as being socially accepted. Thus, high achievement for dyslexic children has an emotional cost as it is more stressful for them to keep up with the academic work. In other words, they exhibit a trade-off behaviour relating to coping strategies. The educationally resilient dyslexic pupils' socio-emotional maladjustment may also be the result of aggravated and prolonged states of stress related to their learning, particularly when their coping strategies are ineffective or even generate new problems.

Dyslexic pupils who showed lower levels of academic performance (high discrepancy scores) were described, in this study, by their teachers, as sensitive to comments from their peers and adults, more attention seeking and slow to complete their work. Their perceived attention seeking behaviour may be a misinterpretation of their increased need for repeated instructions or clarification of the tasks required. It is also possible that because of their academic incompetence, they exhibited more attention seeking behaviour such as being the class clown. The drawback of this study is that 'attention seeking' concept is not clearly defined or explained. This may apply also to other concepts investigated in this study. It would have been more fruitful if these concepts were further clarified through in-depth interviews.

Studies suggest that some pupils with specific learning difficulties were selected by their peers as pupils they liked best (Siperstein and Goding, 1983). In the present study, the educationally vulnerable dyslexic pupils were described as socially getting on well with others in school. These pupils reported that they tend to help others in need more than their peers, and get on well with their mothers. As noted earlier in this and the previous chapters, one possible explanation for their relatively more developed social skills is that these children who 'accepted' their academic incompetence, invested more effort in developing their social relationships. Thus,

the educationally vulnerable dyslexic pupils in this study were socially less vulnerable than their educationally resilient dyslexic peers.

When locus of control was measured, the academically more vulnerable dyslexic pupils were placed at the borderline between the normal and internal locus of control. Thus, dyslexic pupils whose academic achievements are relatively lower, attribute their failure to their lack of ability. Success is not attributed to their own ability, or internal causes, while failure is attributed to self-perceived lack of competence. These findings are consistent with the notion of 'learned helplessness' (Diener and Dweck, 1978). While learned helplessness has been mainly studied in controlled experimental conditions, it seems that it also occurs naturally in schools.

It is important to remember that the study's sample is dyslexic boys and that these findings may not be accurately applied to dyslexic girls. Gardner (1996) suggested that

"secondary emotional problems are often manifested differently in learning disabled boys and girls. Girls tend to become withdrawn, quiet, even depressed. In contrast, boys tend to act out. A learning disabled boy would rather be thought of as bad, rather than dumb. Anger is the cover for the shame of the learning disability." (p.50).

Though this description applies to children with specific learning difficulties in general, it can equally be applied to educationally resilient or vulnerable pupils.

In summary, the socio-emotional aspects of dyslexic pupils differ for the educationally resilient and educationally vulnerable children. However, it is important to note that the educationally resilient dyslexic pupils are not necessarily resilient in other aspects such as emotionally or socially. It seems that the characteristics associated with educational resilience are not effective in social or emotional resilience, and different personal or social characteristics are required for each aspect of human development. This may suggest that it is inefficient to compile a list of concepts associated generally with resilience, and it would be more appropriate to break down resilience in different contexts, such as educational resilience, social resilience, emotional resilience and so on. It may also be that

different coping strategies exist i.e. passive or active coping strategies, with the observable emotional maladjustment symptoms being the passive coping strategies, and with the academic success being the symptoms of active coping strategies.

It is also important to remember that the study's sample is a self selected sample, i.e. representing a specific sample within the population of dyslexic children. Indeed, as Table 4.1 in page 84 shows, one of the sample's characteristics is that the children showed relative strength in verbal skills. This may reflect a more affluent and verbal social surrounding. Thus, it would be difficult to generalise the findings of this study to other samples and a comparison between this sample and other samples should be treated with caution. Conclusions drawn from findings of the evidence presented in this study may, therefore, only be applicable to the immediate sample population.

In addition, it is apparent that the analysis of data collected using the Child's Questionnaire yielded no significant (at .05 level of confidence) findings, and few significant findings at .10 level of confidence. This may suggest a low level sensitivity of the questionnaire used, or alternatively may reflect the overall socio-emotive difficulties experienced by dyslexic pupils in general (as perceived by the children themselves) without showing a significant difference between the high and low achieving groups of this particular sample. Also, the description of the dyslexic pupils by their teachers may have been affected by halo effect as a result of the pupils' generally low academic achievement.

A continuum of resilience/non-resilience

It is apparent from this study that those factors that are associated with educational resilience of dyslexic pupils do not necessarily reflect the factors associated with educational failure. It is important to note that the factors that were associated with resilience in the literature (see Chapter II), and were adopted in this study, do not necessarily describe the study's dyslexic resilient pupils. The findings of this study suggest that there are no absolutely resilient dyslexic pupils, but there are educationally resilient pupils who in this study happened to be not resilient in terms

of their social-emotional development. Thus, all dyslexic pupils may possess one or a combination of facilitating factors that are associated with resilience in the literature, but these factors render them as resilient in a certain area or areas, such as educational and social. Different facilitating factors serve as stress buffering agents in different areas, or the same facilitating factors may be applied in different areas by different individuals. For example, the self-esteem factor may be present in educationally resilient pupils but the same factor may also be present in socially resilient dyslexic pupils. Conversely, the educationally resilient dyslexic pupils in this study showed relatively high self-esteem levels, but the self-esteem factor was not beneficial for them when social relationship was concerned, as the educationally resilient dyslexic pupils in this study were not socially and emotionally resilient. Thus, results of this study show that no dyslexic child is entirely resilient and, every child functions better in some stressful situations than in others, such as the educationally resilient dyslexic pupils in this study coped effectively with academic stress but less effectively with social related stress. As noted in Chapter II, researchers are aware that no one single facilitating factor contributes to resilience or non-resilience, but that it is a complex or combination of social, environmental and personal factors. Due to the nature of this complex process it is difficult to analyse how and what facilitating factors effect and interact with each other, to distinguishing between primary and secondary factors, or between necessary and sufficient ones.

As Osborn (1990) suggested

“a particular protective or vulnerability factor achieved its effect on children's competence partly because of its association with a variety of other contributory factors, and thus to speak of the ‘independent effect’ of a single factor is unrealistic” (p45).

In addition, on the basis of this study, it is difficult to provide a hierarchy of facilitating factors or a ‘protective formula’ as one facilitating factor may be used in different areas by different individuals with a different impact. This is similar to reaction to stress and the amount of tolerance for stress that differs from individual to individual. Some individuals may perceive a specific situation as stressful while others may not, and similarly, some individuals may cope with the stress inducing

factors successfully and may not necessarily display maladaptive behaviour. Hull et al. (1987) suggested that stress cannot be conceived in terms of an external event independent of the individual's appraisal of the event, and that some individuals are more likely than others to appraise events in such a way that evoke a stress response. Thus, some dyslexic pupils perceived academic workload as more stressful and developed social resilience, while others were able to cope with the academic stress more effectively than their peers but showed emotional or social vulnerability.

Vulnerability and resilience

Findings of this study suggest that resilience and vulnerability are closely associated and both reside in the individual at the same time. This means that resilient dyslexic pupils are also vulnerable pupils. This supports the view (see Chapter II) that resilience is not consistent over time and situations. Resilient children may develop into vulnerable adults, and similarly, vulnerable children may develop into resilient adults. Resilience certainly changes from situation to situation. It is also evident that resilience is not a consequence of one single factor, but that it is a process which involves the interaction of different biological, individual, social and environmental factors. It is very difficult to know where resilience ends and vulnerability begins, or if indeed it is sensible to try and make such a distinction.

Findings from this study suggest that resilience and vulnerability overlap in the personality of the individual, and the combination of different facilitating factors that emerge are situation specific. Thus, vulnerability and resilience may be perceived in the same individual depending on the circumstances. Results of this study confirm the researcher's view (see Chapter II) that resilience is not across all domains. Resilience and vulnerability could not be perceived as present in one continuum where resilience is in one end and vulnerability is at the other, but rather in a form of overlapping layers where each different layer is illuminated at a time, depending on the circumstances. The study's academically resilient dyslexic pupils showed emotional and social vulnerability. While those who showed educational vulnerability were more socially resilient. It is clear, thus, that there is not a single

resilience-vulnerability continuum, where an individual is either at the resilience end or at the vulnerability end, or at a specific point in between the two.

Intervention

While it is important to identify the socio-emotive aspects of dyslexia and educational resilience in dyslexia, it is essential that the process of educational resilience and its effects on other social and emotional aspects is understood so that effective preventive strategies can be applied.

Dyslexic pupils are at risk of failure not only academically but also socially and emotionally. Findings of this study show that being educationally better off for dyslexic pupils has an emotional and social cost. This may mean that their coping strategies with the prolonged stressful educational circumstances are ineffective or even generate new problems. Therefore, an intervention programme for dyslexic pupils should consist not only of specific educational provision but also socio-emotional support. Gardner (1996) suggests several techniques that parents and/or teachers can use to help the children. These should be presented in addition to or in conjunction with specific educational provision.

His techniques include:

1. 'Walking through' technique which involves first modelling a job and then doing it, such as tidying up a room. The parent helps children to organise the room slowly while verbalising the instructions. Parental coaching persists until some sort of criteria has been reached. The modelling-doing trials continue as much as it is necessary until a certain criteria has been reached. This technique suggests that the dyslexic pupils are guided through their difficulties by an adult to support them at each step. In practice this technique is easier to administer at home but harder within the classroom situation because it requires the full attention of an adult for a relatively long period of time.
2. Anxiety reduction technique. In this technique gross motor movements are used to reduce anxiety, such as reading while walking, or patting a pet or favourite

toy or object while reading. This technique is easier to administer as the pupils can be guided through the technique with little supervision. It is thought that the attention needed to perform the gross motor movements will distract the attention from the anxiety generating situation, for example, reading. It is however, difficult to apply this technique in all circumstances, such as when writing is required, and there is a need for creativity and imagination to create new anxiety reducing techniques.

3. One-Minute Counselling technique. This technique includes three essential steps taken by parents or teachers: First, there is a need to help the children discriminate the behaviour they are manifesting, i.e. explaining the behaviour of the child such as 'you are now looking out of the window and avoiding work'. Second step is pointing out the possible consequences of this behaviour, e.g. 'if you keep looking out of the window, then you will miss the lesson and you will be angry with yourself'. The last step is offering a more appropriate alternative behaviour, such as 'it would be best if you stopped looking out the window and keep your eyes on the book'. This technique, in the researcher's opinion, is the easiest to administer both at home and in school. It is less time- and effort-consuming on the part of the adult and helps the children become more conscious of their behaviour and more insightful of their feelings and attitudes.
4. Circle Back technique is a method in which the three steps of the above procedure are used and then the adult moves away from the children momentarily. Then the adult circles back toward the children and reinforces the children with a touch or a meaningful glance when a positive response is achieved. This technique is also easy to administer and require little effort and time. However, adults should be trained to use these methods and they should be flexible to adopt a different procedure when no positive response is achieved.

Individual therapy or counselling could also be effective when introduced in conjunction with special educational provision. However, group therapy may sometimes be much more effective than individual therapy, because peers may be a better source of support and insight, especially peers who have the same problem.

Group therapy and individual therapy may often be recommended to compliment each other. When insight is gained in individual therapy, it can be exercised in the safe environment of a supportive small group. This is recommended because children with specific learning difficulties do not often have a chance to air the problems they experience without being judged or criticised, not only problems with reading and writing, but also problems about making friends, feelings of isolation, shame or frustration. Because of the nature of their difficulties, many dyslexic children have difficulties in articulating their feelings, and thoughts often get confused because they do not have the skills to verbalise these thoughts effectively. They may also have difficulties pointing to the source of their anger or frustration. Therefore, individual or group counselling or the combination of both may clear some of these uncertainties.

The concepts associated with hardiness, such as commitment, control and challenge (Kobasa et al., 1982) may be useful if adopted by dyslexic pupils when coping with their stressful circumstances. The 'committed' dyslexic pupils will be able to find the learning situation more meaningful. They should be actively involved with building their specific educational programme, rather than presenting them with the ready-made programme. 'Committed' dyslexic pupils will have both the skill and the desire to cope successfully with stress. Control, similar to internal locus of control, means that the dyslexic pupils believe and act as if they can influence the course of events. Control allows the pupils to perceive many stressful life events as predictable consequences of their own activity and, thereby, as subject to their direction and manipulation. Pupils with control, act and feel as if they are influential, rather than helpless, in the face of the varied adversities of life (Kobasa et al., 1982). Challenge is based on the belief that change, rather than stability, is the normative mode of life (Kobasa, 1982). From the perspective of challenge, much of the disruption associated with the occurrence of a stressful life event can be anticipated as an opportunity and incentive for the personal growth, rather than a simple threat to security. Because of their search for new and interesting experiences, individuals who welcome challenge explore their surroundings and know where to turn for resources to aid their coping with stress. Thus, the individual and/or group therapy with dyslexic pupils may aim to develop these

characteristics. i.e. commitment, control and challenge, which could be used effectively as stress buffering factors, in addition to specific educational provision.

In summary, results of the present study suggest that parents and educators should not perceive the dyslexic pupils' academic success as satisfactory in itself. It is apparent that these educationally resilient dyslexic pupils pay an emotional cost for their academic success. This emotional cost should be addressed in conjunction with the specific educational provision, if the dyslexic pupils are to cope effectively with the stress inducing situations. Some suggestions for help were outlined, and these included individual and/or group counselling. Aiming to develop the sense of commitment, control and challenge through the counselling sessions seems to be a sensible way of helping dyslexic pupils cope effectively with their difficulties.

Limitations of this study

To date, no research was claimed to be perfect and to answer all possible questions associated with the studied phenomenon. This is particularly true for studies in social sciences where there are no absolute standards for what constitute a well-adjusted individual. Individuals' developmental processes and social interactions are very complex, are affected by various factors or combination of them, and are situation-specific. This study is not an exception. The concepts studied, i.e. resilience and dyslexia, are very complex and no commonly agreed upon definitions are found in the literature, although there is a reasonable consensus concerning broad dimensions for both. This suggests that it may be difficult to generalise or to reproduce the same study in different situations, and that the findings are very specific to the studied sample.

The precise meanings and emotional significance of words and concepts can vary within an individual from occasion to occasion, from individual to individual, and from culture to culture, affecting the ability to generalise. However, lack of commonly agreed upon definition does not mean that studies on these concepts should not be conducted. The information gained from this study, despite the definition problem, may enrich the knowledge we already possess both on dyslexia

and resilience. Lack of definitions which could meet the criteria for a scientific concept may hinder the possibilities for longitudinal investigations, thus the measurement of stability remains problematic. This problem is applicable to the present research. The findings of this study suggest that resilience varies across situations. A longitudinal study may further illuminate different aspects of resilience in dyslexic children such as over time, across gender and at different age points. There are few large-scale and methodologically rigorous longitudinal studies on resilience, and there are no published studies investigating resilience in dyslexic children. These are very demanding but are essential to develop normative bases for the continuity and stability of resilience at various ages of dyslexic pupils.

As in the majority of studies conducted, particularly in social sciences, there is the risk that not all relevant variables are addressed in this study. Also, the researcher's prior knowledge may influence the choice of the relevant variables as well as the instruments and methods used.

Because of the complexity of the interaction of different risk and facilitating factors, and their transaction with the environment, there is a need for complex multivariate studies generally requiring large sample sizes. The present study's sample is relatively small and some interactions that were not found significant may prove otherwise in a larger sample study. As noted in the previous chapter, it is essential not to conclude that the factors that failed to achieve statistical significance were not relevant or less important, as they may prove different in larger samples. Thus, large scale, longitudinal studies will be helpful here.

Other limitations of the present study are that the sample included boys within a certain age range. Characteristics found in educationally resilient boys do not necessarily reflect those present in educationally resilient girls, or at ages different from those in the present study. It is important to investigate these as well so that generalisations can be made across gender and age.

The factors investigated in this study may overlap and not be clearly understood. It is questionable whether both children and adults could differentiate between them

when completing the questionnaires. Thus, in addition to the questionnaires an in-depth interview might have clarified some of these uncertainties.

Some positive aspects of the study

Reviews of the literature on both resilience and dyslexia suggest that no such study, looking into the relationship of both concepts, has been conducted. The researcher hopes to illuminate this relationship and use the findings as ‘initiators’, or pave the way for additional studies on the researched phenomenon. The researcher feels that the findings may have important implications for prevention and intervention. To date, the majority of dyslexic individuals are provided with ‘special educational provision’ based mainly on academic achievement. The researcher is of the opinion that there is a need for more provision which should include social and personal issues. The study, it is hoped, will allow educators and therapists to answer questions such as ‘why’ and ‘how’ certain at risk individuals achieved their competences, and may apply this knowledge to other individual cases. The findings may add and contribute to the already accumulated knowledge on both resilience and dyslexia, and may help in better understanding of the issue.

Further research

The present study’s findings raise some interesting questions for further investigations. There is a need to learn more about how individual differences in resilience arise and how its development may be externally facilitated. Can parents and teachers be taught strategies to help dyslexic pupils and enhance their awareness of their socio-emotive difficulties and how to cope with them? How does resilience differ cross-culturally or cross-domains, and is it possible to construct a universal definition?.

The hope is that in the future we can identify more adaptive ways and translate them into practical techniques for coping with stress related problems in general, and with the stress related problems induced by dyslexia in particular .

Conclusions

Dyslexic children are regarded as being educationally at risk of failure due to their cognitive inefficiencies. Educational failure is generally associated with socio-emotional difficulties which may be apparent in school and at home. Although it is generally expected that relatively higher academically achieving pupils show higher socio-emotional adjustment, this was not the case in this study.

The educationally resilient dyslexic pupils were found to show relatively more difficulties relating to social adjustment and more observed symptoms of emotional maladjustment. Thus, the educationally resilient pupils pay an emotional cost for their academic success. Findings of the present study suggest that different socio-emotive characteristics were associated with educationally resilient dyslexic pupils than with their less educationally resilient dyslexic peers. However, the important finding is that educationally resilient dyslexic pupils are not necessarily emotionally or socially resilient.

Resilience in this study is not across the domains. Those who were described as educationally resilient were more socially and emotionally vulnerable than their educationally vulnerable dyslexic peers. The findings also support the researcher's view that resilience is not a continuum where one end is resilience and the other is vulnerability. Resilience in one area does not ensure resilience in other areas, or throughout life. Findings of this study suggest that resilience in one domain (such as education) is not necessarily transferred to other domains (such as social). These findings are supported by Werner's (1993) balance theory which suggests that resilience and vulnerability can differ at different developmental periods. In this study it differed in different domains.

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Appendices

Appendix I

Family Questionnaire

FAMILY QUESTIONNAIRE

CONFIDENTIAL FAMILY QUESTIONNAIRE

Please complete the following questions.

A. PERSONAL DETAILS

1. Child's Name: _____
2. Child's Date of Birth: _____ Age: _____ years _____ months
3. Home Address: _____

4. Telephone Number: _____
5. Father's Occupation: _____
6. Mother's Occupation: _____
7. Ages and gender of other children in your family:

8. Are there any other members of the family who have learning difficulties? If yes, who?

9. Reason for referral: (Who prompted the referral? What are your specific questions?)

B. HEALTH

1. Were there any complications at pregnancy or delivery? (e.g. forceps, breech, premature etc.)

2. Are there any health problems? Does your child take any regular medication ?
Were there any accidents or head injuries?

3. Were there any complications in early childhood development?
(e.g. long separation from parents, early motor development, speech development)

4. Is your child's vision within normal limits? When and where was it last tested?
If any report is available please attach a copy.

5. Is your child's hearing within normal limits? When and where was it last tested. Please attach a copy of a report, if available.

6. Does your child have any motor difficulties? (e.g. hand-eye co-ordination, clumsy, ball games, writing)

7. Is your child left or right handed?

8. Does your child have any speech difficulties? (late to start speaking, stammers, lisps, problems to pronounce certain speech sounds, difficulty in retrieving names of objects or persons)

9. Does your child speak any other language? If yes, which one and where did he/she learn it.

10. Is your child forgetful of instructions or where he/she has left things?

11. Does your child have concentration and attention difficulties?

12. Does your child have any emotional, behavioral or social difficulties, at home or in school? (e.g. fears, habits such as thumb sucking or nail-biting, aggression, nightmares or disturbed sleep, sleep walking, bed wetting or soiling, temper tantrums, social mal-adjustment, nervousness, jealousy, lying, stealing, being a loner, depression)

How well does he/she get on with others children at home?
In the school?

C. School Background

1. Name and address of present school:

2. Are there any special circumstances relating to school which may have affected your child's development?

3. What is your child's attitude to school? (e.g. reluctant to go, happy to go truancy)

4. At what age did your child's learning difficulties first come to your attention?

5 What subject areas does your child find difficult at present?

6 What subject areas is your child good at?

7 Does your child receive any additional help in school? If yes, is he/she making any progress at present?

8. Please add any information you may feel is relevant to your child's assessment. (Copies of relevant reports from schools or specialists would be helpful)

This questionnaire is completed by (relationship to child):

Signed: _____

Date: _____

Appendix II

School Questionnaire

SCHOOL QUESTIONNAIRE

(Dyslexia Institute version)

The parents of this child have asked for our guidance on his/her abilities and difficulties in learning, and the management of any special needs which may be identified. We value the knowledge and experience you have of his or her education, and would, therefore, appreciate your co-operation in completing this form.

Child's Name

Date of Birth

Address

School

Attendance: Regular/irregular – reason

Class and position stream/banded/mixed ability

How many classes for that age group?

What special arrangements has school for:

- a. identifying special educational needs
- b. meeting special educational needs

Is the child receiving help?

GENERAL ABILITY: In relation to age group in school

Teacher's estimate: Above average Average Below Average

Test result Name of Test Date given

ATTAINMENT: In relation to age group in school

Reading (aloud)	Good	Average	Weak	Reading Age if known
(Comprehension)	Good	Average	Weak	Test:
Spelling	Good	Average	Weak	Test:
Arithmetic	Good	Average	Weak	Test:

Has the child any special abilities or interests?

Has the child recently improved, deteriorated, remained the same?

BEHAVIOUR IN CLASS (tick as appropriate)

Withdrawn, aggressive, over-sensitive, anxious, attention seeking, over active, normal, passive, timid, co-operative, friendly, responsive, disorganised,

ATTITUDE TO WORK

Enthusiastic and works well, seeks approval, distractible, slow, competent, shows no interest.

ATTITUDE TO ADULTS

Obedient, apprehensive, submissive, aggressive, normal, resents correction.

ATTITUDE TO OTHERS

Friendly, popular, prefers older pupils, prefers younger pupils, withdrawn, dominant, submissive, normal.

RELATIONSHIP BETWEEN HOME AND SCHOOL

Good, average, fair, some disagreement.

School's view of child's problem

Other observations

Name
Position
Date

Appendix III

Child's Questionnaire



Child's Questionnaire

You are taking part in a study about children. Children sometimes have different feelings and ideas. This form lists the feelings and ideas of children.

From the sentences below, please pick one sentence that describes you best and fill in the box on the left, next to that answer. There is no right or wrong answer because people feel different and like to do different things. While you are working, if you don't know a word, you may ask me.

1. When you have a feeling of success, or something good happens to you, do you like to tell someone?

- ☐ Yes
- ☐ No

If yes, who do you usually tell?

- ☐ Father
- ☐ Mother
- ☐ Someone else, who?

2. When you are sad, do you like to tell someone?

- ☐ Yes
- ☐ No

If yes, who do you first tell?

- ☐ Father
- ☐ Mother
- ☐ Someone else, who?

3. How much attention do you think you have received as a young child?

- ☐ More than other children
- ☐ Same as other children
- ☐ Less than other children
- ☐ Not received any attention

4. Some children receive a lot of attention and some receive very little. When you were younger who gave you most of the attention?

- ☐ Father
- ☐ Mother
- ☐ Someone else, who?
- ☐ Nobody

5. At present, do you think you are getting enough attention?

- ☐ Yes
- ☐ No

If yes, who gives you the most attention?

- ☐ Father
- ☐ Mother
- ☐ Someone else, who?

6. Some children get attention from people other than the immediate family. Did you, in the past, receive any attention from others (not in the immediately family, such as teachers or friends)?

- ☐ Yes
- ☐ No

If yes, from whom?

7. Some children are satisfied with the attention they receive, others are not. Are you satisfied with the attention you receive?

- ☐ Very much so
- ☐ Same as other children
- ☐ Less than other children
- ☐ Not at all

8. Do you do activities as a family?

- ☐ Yes
- ☐ No

If yes, what kind of activities do you do together?

9. How do you get on with others in the family? (parents, brothers, sisters)

	Very well	Like others	Less than others	Do not get on well
<input type="checkbox"/> Father	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Mother	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Brothers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Sisters	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10. Some children enjoy going to social gatherings (e.g. birthday parties) and some do not. Do you enjoy social gatherings?

- ☐ Very much so
- ☐ Same as other children
- ☐ Less than other children
- ☐ Not at all

11. Some children attend different clubs in the local leisure centre and some do not. Do you attend any club?.

- ☐ Yes
- ☐ No

If yes, which one?

12. Some children enjoy playing with other children, and some children prefer to play alone. Do you prefer to play with others?

- ☐ Very much so
- ☐ Same as other children
- ☐ Less than other children
- ☐ Not at all

13. Some children help others when needed, and some do not. Do you ever help others?

- ☐ I help very often
- ☐ I help same as other children
- ☐ I help less than other children
- ☐ I never help

14. Most children think they are like somebody else. Who do you think you are like?

- ☐ Father
- ☐ Mother
- ☐ Someone else, who?
- ☐ Nobody

15. When you get older, who would you like to be like?

- ☐ Father
- ☐ Mother
- ☐ Someone else, who?
- ☐ Nobody

16. Whose ideas and opinions mean the most to you?

- ☐ Father
- ☐ Mother
- ☐ Someone else, who?
- ☐ Nobody

17. What would you most want to be when you grow up? and why?

18. Is there anyone particularly who has confidence in your ability to do well?

- ☐ Yes
- ☐ No

If yes, who?

- ☐ Father
- ☐ Mother
- ☐ Someone else, who?

19. What do you think are some of your strengths?

20. What do you think are some of your weaknesses?

21. Do you enjoy your school life?

- ☐ Very much so
- ☐ Same as other children
- ☐ Less than other children
- ☐ Not at all

22. Are you satisfied with your achievements in school?

- ☐ Very much so
- ☐ Same as other children
- ☐ Less than other children
- ☐ Not at all

23. Some children get angry easily and some don't get angry easily. How would you rate yourself?

- ☐ Not get angry easily
- ☐ Same as other children
- ☐ Less than other children
- ☐ Get angry very easily

24. Some children think before they act while others act quickly. How would you describe yourself?

- ☐ Think before I act
- ☐ Sometimes act quickly
- ☐ Mostly act quickly
- ☐ Always act quickly

25. If you could have three wishes, what would you choose?.

A.

B.

C.

Appendix IV

B/G – STEEM Primary Scale for boys

B/G – STEEM Primary Scale for boys

Please answer all questions. Put a ring around YES or NO

Name: Age: School: Date:

- | | | |
|---|-----|----|
| 1. Is your school work good? | YES | NO |
| 2. Do you like being a boy? | YES | NO |
| 3. Are you strong and healthy? | YES | NO |
| 4. Does someone else always choose what you wear? | YES | NO |
| 5. Do your parents think you behave well? | YES | NO |
| 6. Do children like playing with you? | YES | NO |
| 7. Are you very nice looking? | YES | NO |
| 8. Are you as clever as other children? | YES | NO |
| 9. Does the teacher notice when you work hard? | YES | NO |
| 10. Are you a fast runner? | YES | NO |
| 11. Can you make your work better if you really try? | YES | NO |
| 12. Are you a good reader? | YES | NO |
| 13. Are you good at looking after yourself? | YES | NO |
| 14. Does your Mum or Dad like you to help them? | YES | NO |
| 15. Do you choose your friends? | YES | NO |
| 16. Do you have a best friend? | YES | NO |
| 17. Is your teacher pleased with your work? | YES | NO |
| 18. Do you need a lot of help? | YES | NO |
| 19. Are your parents usually fair? | YES | NO |
| 20. Do you often get the blame when it is not your fault? | YES | NO |
| 21. Do you find sums hard? | YES | NO |

22. Do you have nice clothes?	YES	NO
23. Do other people decide everything about your life?	YES	NO
24. Are you the best looking in your class?	YES	NO
25. Are your parents proud of you?	YES	NO
26. Do you think that wishing can make nice things happen?	YES	NO
27. Would you like to be someone else?	YES	NO